LABOR-FEDERAL SECURITY APPROPRIATIONS, 1952

FRIDAY, MAY 11, 1951

UNITED STATES SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D. C.

The subcommittee met at 10 a. m., pursuant to recess, in room 412, Senate Office Building, Hon. Dennis Chavez (chairman of the subcommittee) presiding.

Present: Senator Chavez.

NATIONAL HEART INSTITUTE

STATEMENTS OF DR. PAUL WHITE, FORMER PRESIDENT, AMERICAN HEART ASSOCIATION, AND CONSULTANT IN HEART DISEASE, MASSACHUSETTS GENERAL HOSPITAL; DR. IRVING WRIGHT, PROFESSOR OF CLINICAL MEDICINE, CORNELL UNIVERSITY MEDICAL COLLEGE; MR. HUGH PAYNE, GENERAL MANAGER, OKLAHOMA MEDICAL RESEARCH FOUNDATION, AND DR. T. DUCKETT JONES, MEDICAL DIRECTOR, HELEN HAY WHITNEY FOUNDATION

DISEASES OF THE HEART AND THE CARDIOVASCULAR-RENAL SYSTEM

Senator CHAVEZ. Doctor, you have testified before the committee before. You know how informal we are. You may proceed as you see fit and make your showing the way you want to.

Dr. WHITE. All right, sir. I will identify myself first. I am a private practitioner of medicine in Boston, consultant in heart disease, retiring clinical professor of medicine in Harvard University, former president of the American Heart Association, first vice president of the International Society of Cardiology, and executive director of the National Advisory Heart Council.

I would like to present first a few fundamental points before turning over the statement of the citizens' budget of the National Heart Institute for consideration.

In the first place, I am here because after 30 years of experience with heart disease, in practice and research and teaching, I have felt that it is of extreme importance, and I am sure that we must get more help from Congress in the fight against heart disease, because the time is ripe. And I would like to turn over now to you a fact sheet, which presents some of the figures concerning heart disease, the current status of heart disease, for consideration.

I will read the first few lines only:

What are we doing about diseases of the heart and the cardiovascular-renal system and why should research funds in this field be increased as a part of our national-defense program?

I. How many people die of heart diseases (including cardiovascular-renal diseases) every year in the United States?

1. The No. 1 killer of our people is heart disease, including diseases of the cardiovascular-renal system.

2. More than one in every two deaths is due to a cardiovascular-renal disease.

3. It is estimated that 750,380 Americans died of cardiovascular-renal diseases in 1949.

Thus, it is quite evident now that mortality and the problem of heart disease is greater than those problems of war and want and pestilence in this country today.

HEART DISEASE STRIKES ALL AGES

In the second place, this threat of heart disease is not limited to old people. Not infrequently questions have been asked at these hearings about the problem of old age. That is, the medical profession is making every effort to prolong life, and we are steadily having more and more old people who may prove to be a burden to the country. But the problem does not concern old people alone. It is a threat to the immediate lives as well as usefulness of youth and middle-aged people just at the height of their usefulness. And, incidentally, we are not just trying to prolong life. We are trying to make life happier and more useful. Because when we do prolong life, as a rule, we prolong health too. And this brings up, of course, the old adage that our effort is to add life to years as well as years to life.

Senator CHAVEZ. Doctor, is not the consensus of opinion to the effect that those who die of heart disease are possibly from the middle age on? It appears to me that we have heard from the Bureau itself that a lot of youngsters die of heart disease, however.

Dr. WHITE. That is right. There are still children and young people in the twenties who are in fact dying. Except for accidents, I believe more than any other disease rheumatic fever and heart disease is the most important cause of death in the second decade of life.

Senator CHAVEZ. It seems to me that they gave us some factual information as to numbers of deaths between 7 and 25, as I recall. It could have been 35.

Dr. WHITE. That is right.

Now, thirdly, there has been a good deal of discussion as to the importance, relative importance, of this problem of heart disease in comparison to the needs of military preparedness and support of our military efforts at the present time. But actually the very need of military preparedness makes more urgent, accentuates rather than reduces, the need of studies in our young and middle-aged people.

DEVELOPMENT OF HEART DISEASE

I would like to cite an experience I had recently at Walter Reed Hospital, where I was shown 10 young individuals, under 40, young soldiers and officers from various theaters, from Europe and from Korea and from this country, who had coronary thrombosis acutely, under the age of 40. Now, doubtless when they entered military service they were very healthy—in fact, often robust—sometimes

stronger than the usual individual. And this problem of coronary heart disease is looming up now as one of the most difficult of all, because it is so difficult to establish a forecast as to who is likely to be a candidate for that disease; and since that involves, in the young, age groups still in the twenties and thirties, many of our young soldiers and officers, it is important to study this.

Senator CHAVEZ. What brings that about? Shocks and matters of that type?

Dr. WHITE. Not necessarily. No; very often there is no precipitating factor. On occasion there is. For example, one of these young officers developed his evidence of his coronary heart disease during the retreat in Northern Korea from the reservoir, but he was the only one in whom an immediate strain was apparent.

The disease had been quiet, had been in the course of development, for years prior to the immediate evidence of it, and it is that development and the early incidence of such a serious type of heart disease in our young people today in civilian life that we have got to do something about. So, it is not just a military problem, although it becomes that in time. It involves our young and middle-aged civilians as well as military.

Senator CHAVEZ. What progress, if any, has been made in matters of research as to what brings about the condition and what could be the possible retarding factor?

Dr. WHITE. It has been left to now to study, for some reason or other, I suppose largely because there was tradition behind it. This kind of heart disease was considered an act of God, as something you could not prevent, in the past, and there were urgent matters, urgent diseases, infectious diseases, that took the limelight, and we have been very slow in getting at this now most vital problem.

But there are very important researches. We are going to discuss one at Pittsburgh on the cause, the etiological factors, behind this most important form of heart disease today.

Senator CHAVEZ. In other words, possibly man has been neglecting to give a little help to God in preventing it.

Dr. WHITE. That is right. And we have got to work on this. And time is ripe, and it is one of the most important problems facing this country as well as the world today, and we do need more funds for the study of this one disease, for example.

RESEARCH AND TEACHING

Well, fourthly, the aid for research and teaching in the field of heart disease, and I expect in other medical fields, too, should be balanced, I think—and I expect a good many others agree with me—between private and public enterprise. It is a fact that private foundations and private individuals can no longer give the sums that are needed, or now with the advance in our opportunities for the study——

Senator CHAVEZ. Pardon me a minute.

Have we comparative figures as between private contribution to this research and the contribution of the Government?

Mr. DOWNEY (the clerk). I do not think we have had with respect to the heart program. We had yesterday with respect to cancer.

Senator CHAVEZ. Do you have, Doctor?

Dr. WHITE. We have some estimates, but they are not completely adequate today, because all have not been established. There has been some evidence in that respect. For example, in this fact sheet that I have passed over, there is a listing of some of the private funds. But this does not include a good many of the studies that are being supported by the universities or by private individuals. For example, for many years I worked with a private cardiac-research fund of our own at the Massachusetts General Hospital, that would not be listed here, small to be sure but important.

I personally believe that there should be a fair balance between private and public support. But it shouldn't be left to one or the other wholly. It is impossible for private individuals now and private foundations to supply the funds that are needed. And yet we don't want to allow private initiative and private interest to lag; so, we try to keep the balance, and the private organizations such as the American Heart Association are vitally interested in the same work. In fact, several of us in the National Advisory Heart Council have been former presidents of the American Heart Association and are still actively interested in it. Therefore, I think that this can be emphasized everywhere.

I go to some of the State heart associations and tell them not to leave everything for Uncle Sam to do. Uncle Sam is needed, of course. The public funds are needed to help in these researches that are going on, because it is impossible otherwise to advance fast enough. But private enterprise must still be stimulated. And, fortunately, groups all through the country are actively interested in every State.

Years ago, citing my own personal experience, there were a relatively few organizations that were doing anything along this line of research. They were still carrying on practice, of course, and teaching, but they were not doing much in the way of research.

So, we started with small funds; and then, as the interest has advanced, we have needed to go out and look for further funds.

Next, it is sometimes thought that the supply of trained investigators is probably too small to demand, to require, more funds; but actually the supply of trained investigators and of ardent young anxious to be trained is more than enough to exceed the immediate facilities for them.

Just last week in Atlantic City there was a meeting of an organization called the American Society for Clinical Investigation, which reports researches in heart disease and cancer and many other fields of medicine. That used to be a small organization, meeting quietly, when I was a young fellow, in one of the hotels, with perhaps an attendance of 50 or 60. It was the beginning, I might say, of a new group. And on Monday, last week, in Atlantic City, there were nearly 3,000 young people from all parts of the country; not all members of this association, only about 200 members, but all interested to hear what these researches were—young people who will be available for these researches in the future. It is the harvest now beginning to be reaped.

But we have many more able and interested people than we can put to work. And so the time is, as I say, ripe.

I would like to also state that we have traveled to a good many places in this country, where we have seen groups at work and facilities for work. Often, however, the facilities are not adequate, or the

groups are not getting adequate support. But there is a great enthusiasm and a present readiness for carrying on these researches. And, the more able young people we can put to work, the sooner we will have answers to some of these problems like high blood pressure and coronary heart disease.

In Oklahoma City, for example—and one of those who will follow me in testimony comes from there—there has been an interesting development. I just want to speak of my own interest in the new development there in Oklahoma. The whole countryside has become interested in research, research in this particular field, too, and there is one worth-while example of support coming from a part of the country. That is true everywhere, of course. It is true in Vermont, Utah, some of the smaller places that have not had support before, now needing it and very much interested.

And another statement which is very helpful, I think, in supporting our request for funds is that the level of local care of the poeple in any community, local medical care, is higher if there is good medical teaching in that community, which would mean that in any State where there is a good medical school there is bound to be better medical care.

IMPROVEMENT OF TEACHING METHODS BY RESEARCH

The level of medical teaching in any community is bound to be higher where there is good medical research going on. Therefore, the support of medical research in any community is bound to raise the level of medical care in that community. And I am sure that that is absolutely correct.

In Alabama, where I went during the past year, there is a new development interested in medical research as well as in medical teaching, and in some of the Southern States that had until the last few years, because of the financial reasons, been slow to advance, they now are just leaping ahead in their interest and abilities to carry on research. It is the most exciting and encouraging experience to visit these places.

Then I have had even some Senators and Congressmen tell me that they think the money spent for research, medical research, has been wasted—very often wasted. I dare say there is some waste in all of it. But to prove that there have been advances in this field by research and by concentration in the field, I can cite certain types of heart disease that have been decreasing strikingly in the last two or three decades.

Senator CHAVEZ. Doctor, may I interrupt right there? You just told us some of the complaints that have been made, even by Members of Congress. Now I think that the average Member of Congress appreciates the matter of research along any line of medical endeavor.

Dr. WHITE. I think so.

Senator CHAVEZ. The complaints that I hear of, not necessarily in this instance that you are discussing but in connection with general research, have been directed to dental research, and they come from Mr. John Q. Citizen. He says, "Well, we are appropriating lots of money for dental research, and the young chaps go down there and take advantage of it, and then they soak us to beat the band when they put that knowledge into application." What is your general opinion as to that, if you care to express it? Do they take advantage of the situation?

Dr. WHITE. I think there is a high ethical standard today in the medical profession, and I am sure, too, in the dental profession, and there is very little attitude of that sort.

Senator CHAEZ. But even if it did exist, should you not evaluate that after you evaluate the relief granted?

Dr. WHITE. Oh, yes.

Senator CHAVEZ. The relief granted to the patient?

Dr. WHITE. Oh, yes.

Senator CHAVEZ. You see, you cannot figure the relief in dollars and cents, or by the fact that they might have spent $150 on a dental fee, compared to the relief granted to the patient in better health and a better state of mind and less suffering.

Dr. WHITE. A great deal of the benefit comes to the people who cannot afford and do not pay anything for the cures that they receive.

Senator CHAVEZ. I want something in the record from you gentlemen, for the reason that once in a while, you know, we have to answer these questions.

Dr. WHITE. In the development of research clinically, it is often the rule that no charges are made beyond, sometimes, the mere expense that may be met by the individual. But research has got to be supported by funds outside and not by the patients themselves. Once in a while private patients of my own will donate private funds toward research, voluntarily, of course, but not by fees charged to them.

RESEARCH ADVANCES

I was referring to the fact that syphilitic heart disease, that used to be an important item in the causes of heart disease, is now becoming very uncommon in most communities. It is actually something less than 1 percent of our cases, far less than 1 percent of the cases that I see in my own practice, where 25 years ago it was an important item.

Also thyroid heart disease, which, before our knowledge of the early diagnosis and proper treatment of thyroid disease, was not rare, is now almost unheard of.

Subacute bacterial endocarditis, the old malignant endocarditis, used to carry with it 99 percent mortality. It is now 80 percent curable. Rheumatic heart disease, which has been one of the three most common types of heart disease, is now on the decline. But there still remain these huge problems of high blood pressure and coronary heart disease that we have got to tackle, and many intensive studies are ready to be done, some of them actually in operation now.

Well, with those six points that I have raised, I would like to present the citizens budget proposal for 1952, which will be probably discussed in more detail by those who follow me. But I will just mention at least some of the items.

I want to emphasize again that our chief interest is in the study of the causes of heart disease, not in their treatment so much as in their fundamental causes, which will get us further in the end in prevention, of course. So the funds for research head the list.

Now that would include construction of research facilities. And although we recognize that it is very difficult for Congress or for the Government now to undertake any important building, nevertheless there are places in the country which are urgently in need of new research laboratory space, and I would still feel that along with the

research project grants there should be some money allocated still for construction.

MEDICAL RESEARCH BUILDING, EMORY UNIVERSITY

For example, recently, within a month, I visited Atlanta and saw a new medical research building at Emory University near Atlanta under construction. The foundation has been laid. They are planning so many stories for research and various fields. We were not able from the funds we received a year and a half ago, to give them the money. They were a little below the top priority list. We have a long priority list, and less than half of it we were able to carry out. They were just below the priority list. And yet they would like to add a floor for cardiovascular research in this building which is now in the process of construction. And there are a number of places like that which urgently need a little aid from us to add research laboratory facilities for the immediate future, this coming year or two.

BUDGET REQUEST FOR RESEARCH PROJECTS

But one of the reasons the citizens' budget proposal gives an increase of something over $3 million for the research projects is that we are supporting, as a matter of fact, less than half of what can be carried out adequately with almost the present resources. I recently inquired of one medical school in the West, one in the South, one in the East, in Boston, as to the research potentialities in this field, from the dea s; and without their in any way conferring with each other, they each said, each of these deans, that more than twice as much money could be usefully spent for cardiovascular research under present conditions than they could do with their present funds.

ORIGINAL BUDGET REQUEST

Senator CHAVEZ. I think that the following information, Doctor, would be valuable in your discussion. I have been asking the Bureau men what was the difference as between what the Budget Bureau allowed and the original request for that particular purpose. For research projects, they asked more than the citizens' committee is suggesting. As a matter of fact, they asked for $9,609,000.

Dr. WHITE. And every dollar of that can be rightfully supported.

Senator CHAVEZ. I thought you would like to know that information to know that even the Bureau allowed it.

AMOUNT REQUESTED FOR CONSTRUCTION

Dr. WHITE. Yes. I would like to add that under "Construction of research facilities," $4 million would be recommended for cash and $14 million for contract authority, which means that there would not be an addition of $14 million cash this year.

Senator CHAVEZ. There seems to be a new state of mind, Doctor, with reference to contract authority. It would be preferred to make an outright cash appropriation. So, that being the case, you will want the $18 million, either divided as you have it, $14 million for contract authority and $4 million in cash, or $18 million in cash.

Dr. WHITE. That is, the $14 million would not be certain at all, you mean, if it were asked for in this way?

Senator CHAVEZ. In contract authority. That is the state of mind of the Congress at the moment. It seems that they are rather reluctant now to give contractual authority. They prefer to make an outright appropriation and let them use it.

Dr. WHITE. $18 million, then, would be the figure that would be needed.

RESEARCH FELLOWSHIPS

But now I would like to take the second item, the "Research fellowships," very briefly. The men who are doing a good deal of the research are not the professors of medicine. They are often suggesting it, often advising about it, and helping with it, but it is the young research fellows who are actually doing most of the work, and we need more money for these research fellowships, by three times, as you see.

TEACHING GRANTS TO MEDICAL SCHOOLS

Then the next item is that of the teaching grants to medical schools' expansion of teaching of medical subjects relating to heart diseases. And there is a request for more than twice as much money for the funds to the medical schools.

It was hoped that there might be $25,000 given to each of 75 medical schools to improve their teaching in cardiovascular diseases. Well, just recently at Harvard Medical School they told me that with the relatively small sum, $14,000 as compared to $25,000, they could not quite set up a proper program.

Senator CHAVEZ. That is (d) you are discussing?

Dr. WHITE. That is (d), the increase from $741,000, which the Bureau of the Budget estimated, to $1,875,000, which would be an allocation of $25,000 to each of 75 medical schools.

Senator CHAVEZ. There is very little difference as between your original request and what the Citizens Committee is suggesting.

Dr. WHITE. Fourteen thousand dollars is what has been given to a limited number of medical schools. But what we want to do, in order to set up proper teaching improvements, is to grant $25,000, as, for example, in the Harvard Medical School, where for $25,000 they can set up a proper course in the fourth year in training in cardiovascular disease.

Senator CHAVEZ. They want to be able to actually take advantage of the money and use it without wasting it and get some results.

TRAINING STIPENDS

Dr. WHITE. That is right. Then the training stipends for trainees, the next item, (e), is for training men in the actual practice, diagnosis, and treatment of heart disease. Many of these men act as residents in hospitals, and that has been a very useful program as it has been started, but requests for such traineeships has been much greater than has been allotted.

I think that I will leave the discussion at this point for others to take up in more detail.

Senator CHAVEZ. Doctor, you will notice on the same page, in the totals, 1951 current appropriation, "Contract authority for construction of research facilities." In the 1952 budget, the Budget Bureau did not allow anything there. So that is a plus or minus of $14 million. That is what I had in mind, you know, when I said what I did.

So in case you got it it would probably be as a matter of cash.

Dr. WHITE. Well, it is badly needed throughout the country in many places that we visited, and I would put in a strong appeal for that. If it cannot be given, and I hope it can be, it still is going to be urgent in the years to come. It is just delaying our program, delaying the knowledge that we are acquiring in these vital diseases of coronary heart disease and high blood pressure, especially, which are such threats today.

Senator CHAVEZ. You want Dr. Wright to take over?

Dr. WHITE. Yes; if I may.

May I turn in this citizens' budget proposal?

Senator CHAVEZ. Certainly.

(The material submitted is as follows:)

National Heart Institute

Description	1951 current budget	1952 Budget Bureau estimate	1952 citizens' budget proposal
Grants:			
1. Grants to medical schools and other institutions and to individuals for research and training:			
(a) Research projects	[1] $4,709,000	[2] $4,900,000	$8,500,000
(b) Research fellowships	321,000	300,000	1,000,000
(c) Construction of research facilities:			
Contract authority	None	None	14,000,000
Liquidation cash	4,459,000	0	0
Obligational cash	0	0	4,000,000
(d) Expansion of teaching of medical subjects relating to heart diseases:			
Liquidation cash	741,000	0	0
Obligational cash	0	741,000	1,875,000
(e) Training stipends:			
Liquidation cash	150,000	0	0
Obligational cash	0	150,000	1,000,000
2. Grants to States for detection, diagnosis, and other control activities	1,700,000	1,500,000	3,000,000
Direct operations:			
1. Research	1,753,600	1,878,000	1,878,000
2. Other direct operations:			
(a) Review and approval of research and training grants	75,657	75,500	75,500
(b) Technical assistance to States	405,040	375,000	445,000
(c) Administration	240,103	230,500	230,500
Total	14,554,400	10,150,000	35,104,000
Contract authority for construction of research facilities	None	None	−14,000,000
Liquidation cash for construction of research facilities	−4,459,000	0	0
Other liquidation cash	−891,000	0	0
Total obligational cash	9,204,400	10,150,000	21,104,000

[1] Includes $600,000 for consolidation of "National blood program" (Heart Institute: $200,000; $200,000 each transferred from "Operating expenses, National Institutes of Health" and the Cancer Institute).

[2] Includes $800,000 for consolidation of "National blood program" (Heart Institute: $400,000; $200,000 each transferred from "Operating expenses, National Institutes of Health" and the Cancer Institute).

WHAT ARE WE DOING ABOUT DISEASES OF THE HEART AND THE CARDIOVASCULAR-RENAL SYSTEM AND WHY SHOULD RESEARCH FUNDS IN THIS FIELD BE INCREASED AS A PART OF OUR NATIONAL-DEFENSE PROGRAM?

I. How many people die of heart disease (including cardiovascular-renal diseases) [1] *every year in the United States?*

1. The No. 1 killer of our people is heart disease, including diseases of the cardiovascular-renal system (1).

2. More than one in every two deaths is due to a cradiovascular-renal disease (2).

3. It is estimated that 750,380 Americans died of cardiovascular-renal diseases in 1949 (2).

(*a*) Diseases of cardiovascular system:	
(1) Vascular lesions affecting central nervous system (primarily cerebral thrombosis, due to arteriosclerosis, cerebral hemorrhage, cerebral embolism)	149, 937
(2) Rheumatic fever	1, 885
(3) Diseases of heart (mostly due to arteriosclerosis)	522, 687
(4) Hypertension without mention of heart and general arteriosclerosis	43, 380
(5) Other diseases of circulatory system	7, 219
Total	725, 108
(*b*) Chronic and unspecified nephritis (kidney disease) and other renal (kidney) sclerosis	25, 272
Total	750, 380

4. 78 million Americans now alive will die of cardiovascular-renal diseases unless new treatments and cures are found (3).

5. During World War II, 1,967,468 people died in the United States of diseases of the heart and circulation (4). This is nearly 8 times as many people as were killed in action in the Armed Forces (5).

II. What was the military manpower loss in World War II because of heart disease?

1. 317,500 men, or nearly 7 percent of 4,828,000 rejected before induction as of August 1, 1945, by the Army, were rejected because of heart disease (6).

2. 80,000 men were given disability discharges from military service or died in military service from heart disease during the war years 1942–45 (7).

3. This manpower loss from heart disease, a total of 397,500 men, would have been sufficient to man 27 Army Infantry divisions (World War II division strength, 14,477) (8).

III. How many people are suffering from diseases of the heart and circulation in the United States?

1. It is estimated that between 9,000,000 and 10,000,000 people are suffering from diseases of the heart and circulation (9).

2. In contrast with this, 670,302 Americans were wounded in action in World War II (10).

IV. What is the civilian economic loss from heart disease and what does it mean to wartime production?

1. At least 176 million workdays are lost each year (11).

2. $846,000,000 are lost annually in productivity (12). This would purchase 11,280,000 Garand rifles at $75 each, or 4,623 pursuit planes at $183,000, or 2,820 antiaircraft guns at $300,000, or 11 Infantry divisions' equipment at $74,300,000.

V. How do deaths from cardiovascular-renal diseases compare with deaths from other diseases?

1. 52 percent of all deaths are caused by cardiovascular-renal diseases (3).

2. Cardiovascular-renal diseases kill—

(*a*) Over 3½ times as many people as cancer (13).

(*b*) Over 19 times as many people as tuberculosis (13).

(*c*) Over 2,055 people every day. Over a period of 4 days, this means 8,220 people, or more than the 7,739 American dead in Korea in 214 days of war (14).

[1] Renal diseases are diseases of the kidneys; in this instance, related to cardiovascular disorders.

VI. How many doctors specialize in diseases of the heart?

1. Only 453 physicians are certified by the American Board of Internal Medicine as specialists in the field of cardiovascular disease (15).

(*a*) In addition, there are 6,095 qualified specialists in internal medicine, many of whom give special attention to cardiovascular diseases (15).

VII. What facilities are available for special care of people with diseases of the heart and circulation?

1. For the minimum number of 9,000,000 people suffering from diseases of the heart and circulation, there are in the entire United States only about 728 beds in 12 institutions specifically designated for the treatment and care of cardiac patients, mostly children with rheumatic fever (appendix I).

VIII. How much money is available for research in this field annually?

1. About $8,221,593 divided as follows (appendix II):

(*a*) Public funds: The National Heart Institute, United States Public Health Service, has appropriations for research for the fiscal year beginning July 1, 1950, of about $6,383,600.

(*b*) Private funds: Leading voluntary agencies interested in cardiovascular diseases allocated for 1950 approximately $1,837,993.

2. In other words, we are spending only about $11.34 per death annually for research to find the causes and cures of the greatest killer of our people.

IX. How does this compare with what we spend on other research?

1. In contrast with the total of about $8,221,593 being spent for research in diseases of the heart and circulation—

(*a*) Congress appropriated a total of $103,810,523 for the Research Administration of the Department of Agriculture for 1950 (16).

(*b*) The Department of Agriculture spent $30,478,330 in 1950 for the program of control and eradication of foot-and-mouth disease now being conducted in Mexico in cooperation with the Mexican Government (17).

2. We live in an economy where, in 1949, the following was spent for industrial research: The Standard Oil Co. (New Jersey) intelligently spent $21,400,000 for scientific research and development projects (18).

3. About $14,020,000 is being spent in the field of cancer research, the second cause of death in the United States (19). This contrasts with only about $8,221,593 for diseases of the heart and circulation, the first cause of death.

4. The total amount available from all sources for research in diseases of the heart and circulation is less than half of the $18,380,000 voted by Congress for the Department of Agriculture's marketing-research program in 1950 (20).

5. $33,428,000 is spent annually for stomach sweeteners (21), in contrast with about $8,221,593 spent for research in diseases of the heart and circulation.

X. *Is heart disease primarily a disease of old age?*

1. No. Of the 637,679 people who died from diseases of the heart and circulation in 1948, 217,636 or one-third, were under 65 years of age (22).

2. In 1948, more children died of diseases of the heart than the total number of deaths of people of all ages from infantile paralysis (23).

(*a*) Among children under 15, more than twice as many died of diseases of the heart in 1948 as died of infantile paralysis (23).

XI. *Do people of the United States think more research in this field is necessary?*

1. 79 percent of the people questioned in a recent poll were in favor of the Government's spending $200,000,000 for research to find the causes and cure of diseases of the heart; and 80 percent were willing to pay more taxes to provide the money (24).

REFERENCE LIST

(1) National Office of Vital Statistics (1 out of 1.93 deaths in 1949; 1 out of 2.26 deaths in 1948).

(2) National Office of Vital Statistics: total deaths 1949, 1,446,000; deaths from cardiovascular-renal diseases, 750,380. These are provisional figures; the final 1949 mortality data not yet available.

(3) 52 percent of the total deaths in 1949 were caused by cardiovascular-renal diseases; 52 percent of 150,000,000 (estimated 1950 United States population) is 78,000,000.

(4) National Office of Vital Statistics.

(5) Killed in action in World War II: Army, 176,432; Navy (died overseas), 72,269; total, 249,701 (World Almanac, 1948, p. 551).
(6) Selective Service System, national headquarters, chart entitled, "Estimated Principal Causes for Rejection of Registrants 18–37 Years of Age in Class IV–F and Classes With F Designation, August 1, 1945."
(7) United States Navy: Report of the Surgeon General, 1946. Medical Statistics and Unpublished Data of the Medical Statistics Division, Surgeon General, Department of the Army.
(8) Army Statistical Review, World War II, "Army Services, War Department."
(9) Dr. Rolla E. Dyer, former Director, National Institutes of Health; estimate based on analysis of the health of the Nation, 1940 (memorandum dated May 28, 1947).
(10) Wounded casualties in World War II: Army, 571,822; Navy, 98,480; total, 679,302 (World Almanac, 1948, p. 551).
(11) Projection of National Health Survey 1937 figures to allow for increase in population.
(12) America's Health, a Report to the Nation by the National Health Assembly, p. 186, published by Harper & Bros., New York, 1949.
(13) National Office of Vital Statistics. 1949 deaths (provisional figures): Cancer (malignant neoplasms), 204,651; tuberculosis, 39,032; typhoid fever, 140; diphtheria, 620.
(14) Time magazine, February 12, 1951, quoting Defense Department report of February 1, 1951.
(15) American Board of Internal Medicine, letter dated January 11, 1951.
(16) United States Budget, fiscal year ending June 30, 1951, p. 377.
(17) Bureau of the Budget, Office of the Director, letter dated October 16, 1950.
(18) Letter dated June 22, 1950, from M. E. Reynolds, assistant secretary, Standard Oil Co. (New Jersey), 30 Rockefeller Plaza, New York 20, N. Y.
(19) Government funds for fiscal year beginning July 1, 1950: $8,805,600; Voluntary agencies approximately $5,215,000. Total, $14,020,600.
(20) Letter dated September 13, 1950, from Joseph C. Wheeler, Acting Director of Finance, United States Department of Agriculture, Washington, D. C. Cost of marketing-research program, $18,380,000.
(21) Drug Topics, volume 94, No. 20, September 25, 1950, published by Topics Publishing Co., New York, N. Y.
(22) National Office of Vital Statistics: total deaths 1948, 1,444,337; deaths from diseases of the heart and circulation, 637,679.
(23) National Office of Vital Statistics: 1948 deaths of children under 15 from heart diseases, 2,278; from infantile paralysis, 1,085; total deaths from infantile paralysis, 1,895.
(24) Poll conducted by American Institute of Public Opinion, Princeton, N. J., June 26, 1948.
(25) United States Public Health Service, Division of Finance:

National Heart Institute 1951 current budget

Obligational cash:	
Intramural research	$1, 753, 600
Research projects (grants-in-aid)	[1] 4, 309, 000
Research fellowships	321, 000
Grants-in-aid to States	1, 700, 000
Other	720, 800
Total obligational cash	[1] 8, 804, 400
Liquidation cash (for payment of contracts made in prior years):	
Construction of research facilities	4, 459, 000
Trainees	150, 000
Teaching grants	741, 000
Total obligational and liquidation cash	[1] 14, 154, 400

[1] Excludes $400,000 transferred from "Operating expenses, National Institute of Health" and the Cancer Institute for consolidation of the "National blood program."

(26) Helen Hay Whitney Foundation, fiscal year beginning January 1, 1950.
(27) New York Heart Association, fiscal year beginning October 1, 1949.
(28) Life Insurance Medical Research Fund, awards for calendar year 1950 (statement of scientific director).
(29) American Heart Association, fiscal year beginning July 1, 1949.

APPENDIX I.—*Hospitals, sanatoriums, and related institutions registered by the American Medical Association as "Cardiac" under "Type of service"*

[Journal of the American Medical Association, hospital number, May 6, 1950, vol. 143, No. 1]

Page	State	Name	Beds
47	Florida	National Children's Cardiac Home	62
50	Illinois	La Rabida Jackson Park Sanitarium	81
59	Massachusetts	House of the Good Samaritan	79
74	New York	Irvington House	[1] 115
75	do	St. Francis Sanatorium for Cardiac Children	[1] 150
76	do	Wieting-Johnson Memorial Hospital	[1] 40
77	do	Convalescent Hospital for Children	[1] 40
84	Pennsylvania	Children's Heart Hospital	60
		Total beds for hospitals and sanatoriums	627
		RELATED INSTITUTIONS	
43	California	Charles S. Howard Foundation	20
51	Illinois	Herrick House	36
77	New York	Pelham Home for Children	[1] 20
		Total beds for related institutions	76
	do	Chronic Disease Research Institute	[1] 25
		Grand total	728

[1] Division of Medical Services, New York State Department of Health, states these 390 beds set aside for cardiac patients where clinical research in heart disease is being done; 365 of these are concerned with the prevention and treatment of rheumatic fever in children. The remaining 25 beds are for adults in the Chronic Disease Research Institute in Buffalo, opened in 1950.

APPENDIX II.—*Funds available for research in diseases of the heart and circulation*

Public funds:	
1. National Heart Institute, through U. S. Public Health Service, Division of Finance, for fiscal year beginning July 1, 1950 (25):	
(*a*) Intramural research	$1, 753, 600
(*b*) Research projects (grants-in-aid)	4, 309, 000
(*c*) Research fellowships	321, 000
Total, public funds	6, 383, 600
Private funds:	
1. Helen Hay Whitney Foundation (26)	262, 993
2. New York Heart Association (27)	[1] 290, 057
3. Life Insurance Medical Research Fund (28)	673, 615
4. American Heart Association (29)	[2] 416, 385
5. Other affiliates of American Heart Association throughout the country (28) approximately	194, 943
Total, private funds	1, 837, 993
Total, all funds (approximate)	8, 221, 593

[1] In addition to contribution of $68,670 to American Heart Association.
[2] Includes contribution of $68,670 from New York Heart Association.

CARDIOVASCULAR DISEASES

Senator CHAVEZ. You may proceed, Dr. Wright.

Dr. WRIGHT. May I identify myself first? I am a practicing physician and consultant in cardiovascular diseases, professor of clinical medicine at Cornell University Medical College, and attending physician and director of the Research Laboratories for Vascular Diseases at the New York Hospital. At present I am president of the New York Heart Association and a member of the executive committee of the board of directors of the American Heart Association. I am testifying, however, as an individual.

I am very gratified and honored to be given the opportunity of appearing before this subcommittee.

It has been clearly demonstrated, and Dr. White's figures have substantiated the fact, that cardiovascular diseases are the greatest killers of mankind. In the United States 637,679 human beings died of diseases of the heart and circulation in the year 1948. In the year 1949, 750,000 died, an increase of more than 100,000 deaths in a single year. More than 66 million Americans now alive will die of diseases of the heart and circulation unless we can find some means to stem this problem. Heart diseases kill three times as many people as tuberculosis. They kill over 1,700 a day. There are 10 million people suffering from diseases of the heart and circulation in the United States at present. It appears, therefore, that there is no question regarding the fact that the intelligent attack against these diseases represents one of the most important problems to engage the attention of the citizens of the United States, now and for the future.

INSTITUTIONAL CUSTODIAL CARE

There are two ways by which one can approach the solution of this problem, both from the viewpoint of the health and happiness of the people and from the viewpoint of the economics of the people.

The first way would be to build more hospitals; train more doctors, nurses, technicians, administrators, and other medical staff; to provide routine—and I would like to emphasize "routine"—institutional custodial care for patients with these diseases without working to discover their causes and to find new scientific treatments. This was the technique which was practiced 100 years ago, at which time the beds of all our hospitals were filled with patients suffering from typhoid fever, yellow fever, smallpox, diphtheria, dysentery, pneumococcus pnuemonia, and tuberculosis. Today, as a direct result of research and the application of the results of this research, the first five diseases mentioned are so rare that they now occupy a negligible number of beds in the United States. The incidence of tuberculosis also has been reduced to a very marked degree, as you well know.

The philosophical approach of providing beds for the institutional care of disease is obsolete, although we are forced to utilize it at present, in part, at any rate, because of the unsolved problems of disease. It is only to be tolerated in relation to each disease until we outgrow this disease in terms of new discoveries.

Now the question is: How do these discoveries come about? Not by coasting along with an acceptance of a laissez-faire attitude but by really applying all of our talents and resources to trying to solve them.

RESEARCH

The second approach is quite different. That is as a result of progress of research. Because someone works without stint, and day and night, as true research workers do, without sparing themselves, and working in surroundings that make it possible for them to accomplish their work with the greatest efficiency.

The unknown areas in this group of diseases are many, and they are serious but, each time a major one is solved, it means a great

saving in terms of beds, doctors, nurses, technicians, and the additional staff.

Senator CHAVEZ. In other words, the ultimate results would be just as you have in the case of dysentery and diphtheria and the rest of the diseases that you mentioned?

Dr. WRIGHT. That is right. That is my view.

Because of the enormous number of patients, this is not to be regarded as a minor or casual problem. I mean by that that the solving of one angle after another, which releases beds from the need for custodial care—for example, at the rate of $12 a day, which is rather a minimal rate for the care of patients in hospitals in this country—1 patient with chronic heart disease or arteriosclerosis costs $4,380 a year to maintain, and 50,000 such patients, which is not an excessive number in view of the actual figures, cared for 10 years, will cost about $2,190,000,000, which is a very large sum.

CONSTRUCTION OF FACILITIES

It is noted that in recent years the Budget Bureau estimates have not included a single cent for construction of research facilities, which are vital in the development of a program for the long-range good of the people. The money has been allocated for hospital beds. The excuse has been the need of economy. But I should like to propose that economy does not come from domiciliary care of incurable diseases for years on end. It comes from finding out how to cure and rehabilitate these patients, so that they can be gotten out of hospitals and restored to good health and productive activity.

It seems inconceivable that our Government spends billions for destruction, although we all know the need for protection of our national security, but not a cent for research facilities.

Senator CHAVEZ. But you are correct. It is destruction.

Dr. WRIGHT. It is destruction. And what I think is that we ought to spend more for construction if we can; for studies of the greatest killers of mankind.

Now I should like to support Dr. White's contention in this regard. There are many examples throughout the country of research laboratories where men and technicians are working crowded together, unable to handle their laboratory facilities, working inefficiently, and we actually, as in our own institution, Cornell, have to refuse young men for fellowships because we have no place to put them, although they are eager to come and work for years at a very small stipend in order to make their contribution and to learn how they can go ahead in this work in the future. We actually have to turn them away, because we do not have the facilities and the place to put them to work. And I mention this not as a plea for one institution, but merely as an example of the national problem.

It has been generally believed that heart disease is inevitable and incurable and that research in this field is hopeless. Nothing could be further from the truth.

RESEARCH ADVANCES

I should like to cite certain examples in relation to what was cited by Dr. White, where research has paid high dividends in the field of cardiovascular diseases just in the past 2 years. Prior to the use of

penicillin in the treatment of subacute bacterial endocarditis, this disease was practically a hundred percent fatal. In fact, I reviewed 300 cases treated at the Bellevue Hospital and failed to find a single recovery in an authenticated case. And the patients took from 3 months to 18 months to die, during which they were hospitalized for the most part and required enormous services for their care, because they became desperately ill, and it was a very expensive procedure.

Now, today, as Dr. White said, more than 80 percent of these patients affected with this terrible disease are curable by the use of penicillin and other antibiotic drugs, and usually within a few weeks, so that, instead of remaining in the hospital and requiring great hospital service and beds for maybe a year or more, they are out of the hospital within the period of a few weeks, and most of them are cured.

This is a perfect example of the fact that cardiovascular disease is not to be regarded as unsolvable, since this particular disease was looked upon as among the most hopeless of all heart diseases prior to the discovery and application of penicillin.

GRANT FOR STUDIES OF CORONARY THROMBOSIS

Other examples of progress that have been made in the last decade include a reduction of more than 30 percent in the death rate per attack from coronary thrombosis. Complications of coronary thrombosis which may produce interminable illness—for example, a clot which may fly loose from the heart and land in the brain and produce permanent paralysis—these complications have been reduced four-fifths by the use of these anticoagulant drugs, heparin, dicumarol, and tromexan. This means that many individuals who otherwise would have survived their attack but have been paralyzed or in other ways disabled are able to get back and be productive again and carry on in economic stability.

This was a direct result of research and application of research. Of special interest to this committee should be the fact that the most comprehensive and conclusive study in this field was made possible by a grant from the United States Public Health Service, in cooperation with support from the American Heart Association, which financed the work of the Committee for the Evaluation of Anticoagulants in the treatment of coronary thrombosis with myocardial infarction. Now, this study was carried on in 16 of the leading hospitals of the United States over a period of 3 years, and the report, the final report, is still in preparation. One thousand and thirty one patients with coronary thrombosis were treated under this report and approximately half of them received anticoagulants and the other half did not receive anticoagulants, and the figures showed the definite advantage of giving the anticoagulant drugs.

RESULTS OF STUDIES

Now, many thousands of lives will be saved as a result of this specific grant. It represents a measurable result of the intelligent application of Federal money to the solution of a health problem.

It has also been possible to prevent clots from flying off from the damaged hearts of patients who have had serious rheumatic heart disease for years. Patients who have this heart disease frequently

have a totally irregular heart in which clots form, and they fly off as emboli, little clots, lodging in different parts of the body, and many times they kill the patient. Some of the patients who have had as many as 20 of these terrible emboli have now gone as long as 3 to 5 years without further emboli flying off, and able to lead extremely active and productive lives.

Now we are working with new anticoagulants which need much further study. The first ones were extremely helpful but they are not perfect, and we could get improved anticoagulants. Some of these, such as tromexan, have certain advantages over heparin and dicumarol. Thrombophlebitis—clots in the veins—a killer of many people in the prime of their lives, has been rendered a relatively innocuous disease which yields quite easily to therapy as a result of the use of anticoagulants.

Our surgical confreres have been able to change the hopeless plight of the babies with congenital heart disease. This is now a well-known story. Frequently these babies were called the "blue babies," and they are now able to make it possible for these children to lead normal lives for increasing years.

SURGERY ON CONGENITAL HEART DISEASE

At this meeting that Dr. White referred to in Atlantic City, a report was given by Dr. Helen Taussig on 1,000 patients operated upon for a congenital heart disease at Johns Hopkins Hospital by Dr. Blailock's and Dr. Taussig's team, with remarkable results in favor of the great aid which can be given by this means.

There are additional surgical procedures which are now performed which are of great importance and which show great promise, and one of these includes operating directly on the valve of the heart, a valve which may have become so narrowed that the patient can no longer survive unless that valve is opened.

Prior to this type of surgery, such a situation was entirely hopeless. Now the surgeon can go into the heart, operate on that valve, open it more widely, and permit the blood to flow through, and the results are very encouraging, although, of course, it is a new procedure, and all of the problems are not completely solved.

Now, however, in spite of these victories, we do not know the answer to some of the most important problems, and these must be obtained.

1. We do not know the mechanism or the cure of rheumatic fever, which produces rheumatic heart disease, the greatest killer of children, as Dr. White has mentioned. With ACTH and penicillin, and cortisone, investigative progress has recently been made regarding this aspect of the problem. It now appears that rheumatic fever can largely be prevented by the use of penicillin promptly upon the onset of the streptococcus sore throats, perhaps several weeks before the rheumatic fever would show up. It is a preventive program, and it is very promising. Dr. Duckett Jones will discuss the problems of ACTH and cortisone in reference to rheumatic heart disease in greater detail.

HIGH BLOOD PRESSURE AND ARTERIOSCLEROSIS

2. We do not understand how or why high blood pressure occurs in most patients, and we cannot treat it successfully in most patients for

a very great variety of reasons that need much further study and elucidation.

3. We do not know the means of preventing or curing arteriosclerosis, which kills more people over the age of 50 than any of several other diseases together. The importance of the many cholesterol studies now in process is yet to be finally evaluated.

I don't think that the fact that arteriosclerosis kills more people over 50 should be looked upon as a reason for not studying it, since our conception of the usefulness of life is entirely different than it was at the time of Abraham Lincoln's Presidency when the average span of life was in the forties. Now the average span of life is in the seventies. and many men are extremely active and productive until close to that time, 65 or 70.

Senator CHAVEZ. For instance, vice presidents.

Dr. WRIGHT. That is right. But some of our most productive thinking has been done in the older age groups, and this idea of shelving a man at the age of 50 or 60 seems to me to be also an obsolete conception. We must keep these men healthy. They have accumulated an experience in world affairs or scientific affairs which is invaluable as a guide to the younger men who may actually have to do the leg work.

Senator CHAVEZ. I fully agree with you, Doctor.

Dr. WRIGHT. There are other numerous cardiovascular diseases which are capable of killing or disabling many patients, but time does not permit permit me to elaborate on these.

Money spent for research facilities, research projects, and research fellowships will pay off the greatest possible dividends in health and sound national economy.

As an example, if cardiovascular research relieves the need for only 2 beds in each of the counties of the United States, it means 10,000 beds, and the annual saving will total between 50 and 60 million dollars, a saving which will be repeated yearly, to perpetuity.

Now, just the discovery that penicillin will cure subacute bacterial endocarditis is a perfect example, since I will hazard the guess that that, in itself, has released far more than an average of two beds per county in the United States since that discovery has been made.

AMOUNT REQUIRED FOR ADEQUATE RESEARCH PROGRAM

A total of $35,104,000 of Federal money is urgently needed to really do this job in a courageous and forward-thinking way during 1952, of which total $18 million is needed for construction of laboratory and other facilities. It is important that cardiovascular research laboratories be developed in many medical centers throughout the country, so that many more minds may be brought to focus on these problems. The chances of success are increased in a geometrical type of progression by having facilities located in many areas, instead of all concentrated in one, since inevitably larger numbers of young men will be fired by the challenge of those diseases and will be inspired to devote their energies to them. The facilities will then be locally available for them to go to work to the greatest advantage.

Forty-eight medical institutions representing 21 States and the District of Columbia have applied for help for constructing facilities within which cardiovascular research can be carried out.

It is not my purpose at this time to attempt to evaluate each of these requests, but to emphasize the importance of allotting adequate

funds so that a long-range program can be embarked upon throughout the country. Unless this is done now, our hospital facilities for the care of heart patients will have to be constructed in ever-increasing numbers and at greater cost.

INCREASE IN HEART-DISEASE DEATHS

In other words, we are going to be forced to build beds for domiciliary care if we don't lick the diseases before that demand arises. And when you consider that there has been an increase of 100,000 deaths from these diseases between the year 1948 and the year 1949, it is clear that this is a problem that must be met and cannot be avoided.

Once more let me remind you that unless the laissez faire attitude of a century ago had been abandoned, we would have needed hospital requirements beyond our most extravagant calculations for people suffering from typhoid fever, smallpox, diphtheria, pneumococcus pneumonia, the dysenteries, and other diseases which are now practically obsolete.

It is my earnest petition that the thinking of a century ago in reference to these diseases be not carried over into the second half of the twentieth century in terms of cardiovascular diseases.

Senator CHAVEZ. Thank you, Doctor.

Mr. Payne?

SUPPORT OF NATIONAL HEART INSTITUTE APPROPRIATION

Mr. PAYNE. I am Hugh Payne, general manager of the Oklahoma Medical Research Foundation, Oklahoma City; also the executive secretary of several private agencies or organizations having to do with health. Among those are the Alumni Association of the Oklahoma School of Medicine; and I am executive secretary of the Oklahoma State Heart Association and the executive secretary of the Oklahoma chapter of the Arthritis and Rheumatism Foundation.

The statements that I shall make here are very brief. They are made strictly, Mr. Chairman, as a layman and as a private citizen. Of course, it is always a privilege and a pleasure to appear here and to participate with these learned gentlemen that have participated here, who have preceded me and will follow.

I am no different than anyone else here, any man or woman or child. I would like to live out my three score and ten years. I would like to live it in such a way that I could be reasonably healthy, enjoy my family, my grandchildren, my friends and neighbors, and be of some service to my community and State and Nation. So it is in this vein that I shall attempt to set forth some things that we have on our mind.

I believe that you, the Congress, may have the key whereby I might live out my threescore and ten and be useful.

In 1948 you created the National Heart Institute, and it was a wonderful beginning. When this became public in Oklahoma, we were engaged in an effort there to raise funds for a nonprofit organization to do medical research in a wide field. We felt the impact of what you had done here in a most favorable way, accelerating the giving and the interest of people. Why? The people felt that here

was the Government ready and willing to step in and fill the holes where the private citizen could not do so.

There are some phrases that all of us are afraid of. The word "thrombosis" is a constant thing. We hear it all the time. Now, as a layman, and looking at the situation as to the request here for the moneys that may be needed, I would like to emphasize two or three things:

First, as to the figures that you have heard here and will hear, we can divide them up, and we can do most anything with figures if we want to. But there is one thing as a layman that I do know. There is nothing on this earth that can replace a human life.

HEART DEATHS OF FAMILY AND FRIENDS

I have here a very grim reminder of what heart disease is doing to my friends, my family, and my acquaintances, in Oklahoma. Here is a list of 12 children from the ages of 9 to 18, that we have known over the past 3 years, that are dead today, because of rheumatic fever.

Senator CHAVEZ. Would you have any objection to including them in the record?

Mr. PAYNE. No; I wouldn't. I would be very happy to do so.

Senator CHAVEZ. Just in case we have some economizing Congressman from Oklahoma.

Mr. PAYNE. Yes, sir. I would be very happy to have that included.

(The material referred to is as follows:)

Patricia Cummins, Nicoma Park, Okla., 17 years, white.
Donna Kay Lang, Chickasha, Okla., 18 years, white.
Norma Davis, Lindsay, Okla., 15 years, white.
Zelma Sexton, Oklahoma City, 16 years, white.
Marie Louise Sherd, Atwood, Okla., 9 years, white.
John Statum, Oklahoma City, 18 years, colored.
Gary Rogers, Ravia, Okla., 17 years, white.
Matilda Wilhite, Watonga, Okla., 18 years, white.
Alvena Wiseman, Tulsa, Okla., 12 years, white.
Gracie Bell Ball, Pryor, Okla., 18 years, white.
Norman Booker, Oklahoma City, Okla., 19 years, white.
Jearl Carper, Okemah, Okla., 17 years, white.

Rheumatic-fever deaths:		Rheumatic-fever deaths—Continued		Rheumatic-fever deaths—Continued	
1951	2	1945	8	1940	3
1950	3	1944	7		
1949	2	1943	5	Total	56
1948	3	1942	8		
1947	3	1941	8		
1946	4				

Mr. PAYNE. I also have here a list of persons, 30 in number, that we have known during the past 2½ years and have lost due to heart disease.

Senator CHAVEZ. Have you their ages on that last list?

Mr. PAYNE. No, sir; but I can fill them in fairly accurately.

Senator CHAVEZ. I wish you would.

That information is extremely important, as between the two lists.

Mr. PAYNE. I will be very happy to.

(The material is as follows:)

	Approximate age		Approximate age
Raymond Everest	55	Glenn Skinner	65
R. C. Millspaugh	50	R. O. Renfrew	70
Clarence Brain	69	N. V. Rushmore	55
D. W. Whitehurst	56	B. C. Cortelyon	45
W. B. Bizzell	64	P. H. Piggott	59
John A. Brown	63	Loyd Noble	56
D. O. Bailey	56	Ed Spiney	43
Oscar Ameringer	64	C. D. Payne	51
J. W. Lyon	62	Dr. Musick	48
Ben Barnett	60	Dr. Sadler	46
J. W. Harrold	59	Tom and Dick Lowery	56
LeRoy Long	64	Wendell Long	44
Ace Gutowsky	56	Mrs. Jewell Moody	35

LOSS OF PROMINENT CITIZENS FROM HEART DISEASE

Mr. PAYNE. This brings up another point that I want to particularly emphasize. Here, out of this list of 30 men and women, is represented the leadership of Oklahoma. I placed the age of some of them here, and will place the others, but I am thinking particularly of some. If ever there was a time in the history of this Nation that we needed that leadership, it is now. We need it there. We need it all over the Nation. No one questions the motives of these people or their own leadership in community affairs.

As stated by one of our doctor friends here just a minute ago, the younger generation look to these men as leaders and then try to follow in their footsteps.

I know of one instance, here, and I am going to use this name, Mr. Lloyd Noble, who had taken an active part in the affairs of the University of Oklahoma, and in research, medical research. One morning he became interested in the Oklahoma State Heart Association, and we asked him to be the State chairman for our little fund there. Ten days later we had a call from Houston, Tex., where he was on business. He was dead. We lost great leadership. And what I am saying here, Senator, is true of every community in this Nation. I do not think there are any exceptions at all. I am merely using this as an example.

Senator CHAVEZ. We had an example within the last few days here in Washington. While the person might have been older than the gentleman that you referred to in Oklahoma, Congressman Kee, while having a meeting such as this, walked out to another room, and you know the rest.

Mr. PAYNE. Yes, sir.

PRIVATE RESEARCH CONTRIBUTIONS LIMITED

Another point that always comes to our mind when we think of governmental aid for research or that type of thing within the medical school and private organizations such as the Oklahoma Medical Research Foundation, is this: Why ask the Government for money when it should be raised locally for research? Our experience during the past 10 years with private organizations in the raising of funds has been pleasant, fairly successful. But those organizations can raise from nickels and dimes and dollars only enough funds to do a couple of things, actually, such as to spread public information of the kind that would be beneficial and to bring seminars into communities

for a further educational effort or informational effort of the physicians that may be interested in that type of disease, and the amounts that they have left cannot anywhere near fill the demand.

Senator CHAVEZ. There is also something else, Mr. Payne. That is the way I feel about it, and I am speaking for myself only. We like to brag about public welfare, the commonweal. I do not see what would be more in the interest of public welfare or the commonweal than to try to keep people alive until their allotted time.

Mr. PAYNE. Exactly. We have all of the facilities necessary throughout the Nation. Recently I saw the results of a survey of facilities to conduct heart research. We have found that there are plenty of brains. The facilities, while limited in some ways, are available. And now, as I say, all we need is the funds to do the job.

We have, and we are proud of it, the laymen who represent all of our boards. We are proud of the fact that we have the National Heart Institute. Men of high caliber, of different political beliefs and religions, all very successful, have only the very highest compliments to pay to the National Heart Institute.

Senator CHAVEZ. Let me tell you of the thinking of people. This Government has spent $120,000,000 in the Republic of Mexico to try to control foot-and-mouth disease of cattle, and I am for it.

Mr. PAYNE. Inasmuch as the confidence has been expressed in this venture of Congress to initiate a unified effort to attack heart disease, all of the elements necessary are at hand to do a tremendous job in research in those fields that have been mentioned and will be mentioned later and, above all, we have developed a will to do it, a courage, a desire to unify our efforts.

Therefore, I think it is only the duty of Congress to see that funds are made available for adequate research and reasonable research. If they do, we have the feeling that it will eventually be conquered, and I can live out my three score and ten, and you and the other persons throughout the Nation can also.

Thank you, sir.

Senator CHAVEZ. Thank you, Mr. Payne. That was a very nice statement.

(The prepared statement is as follows:)

HEART TESTIMONY, 1951, BY MR. HUGH G. PAYNE, GENERAL MANAGER, OKLAHOMA MEDICAL RESEARCH FOUNDATION; EXECUTIVE SECRETARY, THE ALUMNI ASSOCIATION, UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE; EXECUTIVE SECRETARY, OKLAHOMA STATE HEART ASSOCIATION; EXECUTIVE SECRETARY, OKLAHOMA CHAPTER, ARTHRITIS AND RHEUMATISM FOUNDATION

In view of the expert testimony already given and that to follow, it is a distinct privilege to be permitted my opinions, as a layman, before this committee. My statements are brief and are probably based on the oldest wishful desire of mankind—the desire to live—to avoid death. Actually, I am honored to have the privilege of appearing before you to make a plea—a plea for my life—the lives of my friends and loved ones. I am extremely grateful that the judge and jurors who hear my pleas are gentlemen of understanding, whose backgrounds encourage me as a layman to make these simple statements. I plead that you allow me to live out my Biblically allotted time of three score and ten. You, the Congress, can aid immeasurably in this request by doing all that is within your power to eliminate the constant shadow of death that hovers over me, as well as over every other man, woman, and child in this Nation—that of heart disease.

I am no different to you or anyone else, I would like to live my three score and ten in such a manner that, up to my last day, I could be useful to my community, my State, and my Nation. I would like to be physically strong enough to live normally and to enjoy the association of my friends, my relatives, my children,

and my grandchildren. Gentlemen, I believe you, the Congress, has the key whereby this can be accomplished. You, the Congress, initiated the first step to give all of us a longer, happier, and more useful life when you created the National Heart Institute in 1948. When it became public in our Mid-Southwestern State that the Congress had created such an institute and its purposes were known, every intelligent person immediately received a feeling that possibly here, as represented by the National Heart Institute, was an organization that would undoubtedly go a long way toward eliminating the ever constant thought of thrombosis and that fearful phrase, "he suffered a coronary." All of us, our wives, and children, believe you have expressed interest in our welfare. Actually, the creation of the National Heart Institute accelerated the efforts of thousands of volunteer workers in bringing into being the Oklahoma Medical Research Foundation and its resultant great research institute. Why? Why? Because all those interested felt that they were not alone in the pioneering of ways and means to better humanity, particularly in the field of heart disease.

You, the Congress, during the first year of the National Heart Institute's existence granted the sum of $5,462,000 for research in cardiovasuclar or heart disease. It was a good start but, gentlemen, it was far too little. Worthy requests for heart-research moneys have literally flooded the National Heart Institute. The amount granted the Institute for research served as a vehicle to bring forth a true picture of the need for heart research.

The training of doctors and research workers, and worthy activities aimed at prolonging human life were at one time considered exclusively the province of private organizations and individuals. No one would suggest that private agencies have outlived their usefulness in this field. On the contrary, the work of the private agency becomes increasingly important each year, particularly in the area of public education and information. However, it can be easily demonstrated that private agencies alone are unable to cope with the problem of adequate support for research.

For example, $8,221,593 was available for research on heart and circulatory diseases for the fiscal year beginning July 1950. Of this sum, $6,383,600 was public funds to be spent through the National Heart Institute. The remainder, $1,837,993, was available from private agencies.

Consider how little would have been accomplished in the field of heart research had not a wise Congress in 1948 passed the National Heart Act creating the Institute.

The fact of Government activity in the field does not give rise to a let-Uncle-Sam-do-it attitude on the part of private agencies. The American Heart Association is today engaged in a vigorous campaign aimed at raising funds for the support of its program. We wish them the best of luck, but experience teaches that what they can raise will be only a small portion of what is needed.

Next year, therefore, the major burden for carrying on research in this field must again fall upon the Government.

It is, indeed, not appropriate for me to suggest ways that funds should be expended. As a layman I have full confidence in our learned men, our doctors and scientists as to how funds should be allocated.

These gentlemen have told us that an amount of $35,104,000 is neeeed the coming year to carry on a comprehensive heart program throughout this Nation. Qualified men have recommended this figure. It is an amount absolutely commensurate with the job that is to be done. This figure, we know, was arrived at after months of careful surveys of the Nation's facilities to do an efficient job of heart research. I fully realize the anxiety of all of us to institute a program of economy, but for the sake of human lives, let us not be "penny-wise and pound-foolish."

Figures are tools. They are cold and many times figures can be twisted to mean almost anything by proponents of worthy causes. But, there is one thing I do know—there is nothing on earth that can replace one lost human life. I hold here in my hand grim proof of this statement. Here is a list of my acquaintances representing men, women, and children in all walks of life who have been snatched into eternity long before their time because of heart disease. The majority of the men whose names appear on this grim list were men just in the prime of life. They were community and State leaders in business and professional activities. There are mothers on this list whose families need them so badly. And, there are children, too, who will never have the opportunity to serve their community and become a joyful part of family life. We, and I say "we," incorporating the citizens of this Nation, and you in the recognized governmental agencies, have for the first

time an avenue through the National Heart Institute to combat this, our No. 1 killer, heart disease, through an unified, vigorous effort.

If this effort is backed by sufficient funds, this Nation will have again made a great contribution to the peoples of the world. We have all the elements for a successful program. We have trained minds; we have an abundance of medical and scientific training schools, hospitals, scientific apparatus, and above all an abounding, courageous, sincere will to do something about the problem. But, what is lacking? Financial support to bring together all these necessary elements for the final assault on our common enemy.

I go further and state that an adequate program to eliminate heart disease will definitely and materially help our defense effort, both morally and physically. It goes without any contradiction whatsoever that this Nation now needs strong, experienced, successful men to lead and to plan as never before. Let's keep them alive so they can fulfill this purpose. Let's eliminate those heart diseases affecting our youth and we will provide more and better fighting men. The moral aspect of our Nation will be lifted many degrees if we can keep alive our vigorous leadership. Confidence is needed, and confidence comes only from recognized, successful leadership which is represented by the individual businessman or professional leader. And, by no means the least, we can demonstrate to the rest of the world that the welfare and health of our people of all ages is essentially the American way of life.

In conclusion, gentlemen, I earnestly state that life, liberty, and the pursuit of happiness for some 600,000 men, women, and children who die needlessly each year from heart disease stand alongside me in asking you to recommend and actively support our request. Of course, liberty and pursuit of happiness are determined by the individual—but life itself is oftentimes dependent on scientific knowledge. We need your aid so that all of us may be the beneficiaries of scientific knowledge administered to us through our scientists and doctors that we may, with reasonable confidence, expect to live out our justifiable threescore and ten years.

RHEUMATIC FEVER RESEARCH

Senator CHAVEZ. Dr. Jones?

Dr. JONES. Senator Chavez, I am Dr. T. Duckett Jones of New York City, medical director of the Helen Hay Whitney Foundation, which is interested in rheumatic-fever research. I am also a member of the board of directors of the American Heart Association and of the New York Heart Association; also chairman of the American Council on Rheumatic Fever of the American Heart Association and member of the National Advisory Heart Council, the National Heart Institute, the National Institutes of Health, and the United States Public Health Service.

I, like the others present, come as a private citizen to present my views. I will try not to repeat the data which has been presented to you by the others, but rather to emphasize a few points, rather extemporaneously.

Senator CHAVEZ. You want your statement to go in the record?

Dr. JONES. I would like to introduce it, but speak extemporaneously.

Senator CHAVEZ. We will include the whole statement in the record and you may elaborate extemporaneously as you deem proper.

Dr. JONES. Yes, sir.

In 1948, when the hearings were held which resulted in the passing of the National Heart Act, a good many of the professional members present were somewhat shocked at the discussion at that time, that it would be possible to spend ably and intelligently and usefully in the very immediate future the sum of $15,000,000, which I think was mentioned in the hearings.

Senator CHAVEZ. They did not have in mind socialized medicine.

Dr. JONES. No, sir. But they did think that for heart research and the program that much would be needed, and I think it is an extraordinary thing that in a short period of 2 or 3 years we have moved to the point of coming to tell you what we need on a basis that is very real, and a basis of full knowledge of how it can be utilized throughout the country, and an experience which I would like to slightly review.

Actually, this is merely the second year of any real budgetary support, because the fiscal year 1951 was the first year of real support, and that was large because of construction grants, which were deleted in 1951 unfortunately, we feel, and for which I think there is a very real need at the present time as stressed by Drs. Wright and White.

NATIONAL HEART ACT

I think that one of the most amazing experiences in the development of this program has been the fact that, largely modeled after the Cancer Institute, I believe, and the structure of the National Institutes of Health, the National Heart Act included research grants, fellowships, traineeships, teaching grants, and control grants to States, which have been reviewed, and items have been listed and funds requested.

Actually that is an unbelievable scope for a program which encompasses the four important aspects of important health programs which have been so often mentioned by Dr. Allen Gregg of the Rockfeller Foundation, whose distinguished leadership in relation to medical education has been so evident in the last quarter of a century. They are education, research, and application.

I would like to say that the National Heart Institute has that total pattern. Of course, we are not delivering services to human beings directly. But there are many aspects of application, through the educational program, the information center, the teaching grants, and the control grants to States.

Now, that was largely content. And from what has been the experience of a very fine administrative group, I believe, as members of the Heart Council will verify with great avidity, those who have worked very closely with this administrative group, I think there are three or four things which stand out very strikingly.

COOPERATION OF MEDICAL PROFESSION

First, there has been an unbelievable response on the part of the scientists of the country as to the importance and validity of this program. I think there is abundant evidence in the records to indicate that the scientists are anxious and willing to cooperate, that the medical schools and research institutes of the country are pleased about the program and feel that it fills a very important need.

I feel that there has been a feeling among the scientists that there is greater need for stability and continuity of research than we have been able to accomplish up to the present time by either our private or public source of funds. And I may say that I believe that the public and private work very closely in a correlated effort to improve this feature.

Thirdly, it has become evident that there is an abundance of able people in this country who have never had an opportunity to show and use their scientific ability. And that becomes the very core of broadening any research program, because it is upon brains and the early identification and utilization of those brains that we must depend for our addition of new knowledge.

COMPARISON OF BUDGET WITH PRIVATE EXPENDITURES

And, fourth, the volume of funds currently coming from the National Institutes of Health represents, I believe, approximately one-fourth of the moneys now being spent in our medical education institutions of the United States. Hence they are of great importance to the total problem of medical education and medical care. And to seriously alter them will greatly influence in a highly deleterious way the general progress of medical education and medical care throughout the country.

TRAINEE PROGRAM

I think, fifthly and lastly, it has become evident to most of us that our very great need at the present time, probably the greatest need of all, is the backing to develop careers for very able young men, which at the present time we cannot do too satisfactorily because of lack of funds.

Now, I do not mean that we are trying to develop careers to give men tremendous incomes and great personal security. We are trying to develop careers of men of great integrity and ability and imagination who are willing to forego many of the comforts of life in order to use their brains and intellectual curiosity in the advance of medicine. And I believe those five points are very important, because they are the very core of why up to now it has been pretty obvious that the National Heart Institute has been accepted by the country at large with seeming great favor, and that it is meeting needs and it is developing in very sound directions.

I thought it might be of some interest to review very briefly four or five areas in which work is going on now, of great importance, and it gives hope for great future knowledge of body function in both health and disease.

RESEARCH ADVANCES, ACTH AND CORTISONE

Now, as to the hormones, as to ACTH and cortisone, that story is well known. The amount of scientific work that the development of those two hormones has resulted in is simply astonishing. A year or so ago I felt that it was opening complete new vistas concerning how our bodies function and how we came into a state of chemical equilibrium. We are now learning many things, not only about those two hormones, but about new hormones, the interrelationship of our glandular systems, their influence on many disease problems; and I would believe that work is progressing which, if kept up—and it gives good promise of keeping up at a fast rate—may give us body equilibrium knowledge which is almost beyond our fancy, beyond our ideas and hopes as to the future.

MULTIPLE INSTITUTION STUDY OF ARTERIOSCLEROSIS

The study of arteriosclerosis was mentioned by Dr. White. There is currently a multiple institution study using expensive but highly important techniques in determining the presence in the blood of so-called flotation bodies, which are demonstrated in ultracentrifuge. That is a combined study going on at four important institutions in the United States. It is being financed by the Heart Institute and actively run by a committee appointed by the Institute.

It has become increasingly of serious importance to the members of the Heart Council, and I think to the administrative group, that there is seemingly an inescapable association between hardening of the arteries and old age in the minds of almost all people. And so the Heart Council has taken some action to try to impress physicians and scientists with the fact that there is a difference between the aging process and senescence and the presence of arteriosclerosis, which may begin at a very young age, and is not necessarily a concomitant of the aging process. The same is true of hypertension.

Both of those fields have new approaches now and new methods of study, which give hope for great knowledge in the next few years.

PREVENTION OF RHEUMATIC FEVER

Rheumatic fever has been mentioned. It has been known for some time that with the use of antibiotics every day we can prevent the streptococcal infection that produces rheumatic fever. We are now moving, I believe, in the direction of preventing rheumatic fever in some instances by treating streptococcal infections with adequate doses of penicillin very early, as was mentioned. ACTH and cortisone if given in the very early stages of rheumatic fever will, within a week or so, reverse the process and perhaps stave off the development of heart disease and protracted illness of months and sometimes years. There is less evidence that these hormones cause a reversal of the process once it has become chronic.

INTERNATIONAL STUDY ON HORMONES

And so we are now in the process of conducting an international study on the evaluation of these hormones, with five or six of the leading institutions and scientists of this country—one in Canada, four or five in Indiana—cooperating to do much of what Dr. Wright explained about the value of anticoagulants. That study has been beautifully organized and gives promise of bringing information of great value.

BLOOD PROGRAM

Finally, there is great interest in the relation to the need for satisfactory substances for the disaster treatments of the individual, both war and civilian. Of course, we think of blood substitutes or derivatives or some substance which will combat shock. And in the last year, Surgeon General Scheele has seen fit to give to the National Heart Institute the responsibility for developing the blood elements and derivatives as part of a national blood program which, I may say, is rather tenuous, because it is a multiple-agency type of program.

A subcommittee of the Council and study sections of the Heart Institute have been working very hard on this, and some progress of great importance has been developed. I think that, in the relatively near future, it will become evident that there are materials of greater value and greater safety for treatment of people in emergency situations.

Strangely enough, and to back up the construction grants, one of the laboratories which has been a great contributor to this new knowledge presently has 3 scattered laboratories with 10 distinguished scientists working scattered in various parts of Harvard Medical School and the Busse Institute, which is 2 to 3 miles away, and no funds are currently available to bring this important group together under one roof, so that they can have their basic research and their pilot plants for the developing of materials which may be used together.

Senator CHAVEZ. Doctor, did you not refer to that particular matter when you were here before the committee last year?

Dr. JONES. No, sir; this is new. I did refer to it before the House Appropriations Committee.

Senator CHAVEZ. Thank you.

NEED FOR FELLOWSHIP GRANTS

Dr. JONES. Now, the needs of the Heart Institute have been mentioned—the fact that we need greater funds for grants. We desperately need funds for fellowships. We need more traineeship funds and construction funds. But those needs really express in general the policies that have been pretty well worked out not only by the Heart Institute but by the Public Health Service and the National Institutes of Health, concerning how we obtain knowledge. And I think it might be advisable just to mention that very briefly. I think there can be little question but that the first half of this century gives abundant evidence of the fact that progress comes from the utilization of and it is a product of the human brain. And, save when basic knowledge is already available, it is impossible to apply or to engineer. In order words, a doctor can only be as good as the general level of knowledge of that moment is, save for his art in handling people psychologically.

The atom bomb is a good example. We have it. We paid dearly for it in money. It would not have been purchasable 10 years earlier, because the basic knowledges had not come from the brains of individuals. And as you well know, I am sure, most of those developed in Europe and came to this country, and we engineered, at whatever cost it was, $2 billion, the atom bomb, and we are happy to have it, and there will probably be many important aspects of nuclear fission for use other than as a bomb, I hope.

Senator CHAVEZ. That is what I was going to comment, right there. I hope some day they will do like the medical research people and use it for the common good and for the benefit and uplift of humanity instead of destruction.

Dr. JONES. But there was an instance where the conditions of the time favored a large expenditure of funds for something we could put together and purchase. But we can't do that about the human body.

Senator CHAVEZ. I want to emphasize, as to the atom bomb, that I like to think of electricity from the standpoint of what it does for

society, not as the means of being something by which one could be executed somewhere.

Dr. JONES. My main theme about this is that the past half century, spurred largely by the experience of Johns Hopkins, at the turn of the century, and the report on medical education by Abraham Flexner, in 1909, which was heavily backed financially by the Rockefeller Foundation and by matching of funds in many local areas of the United States, brought to medical educational institutions large sums of money. And in those noninflationary days, it was very real capital. And that made possible the great expansion of the utilization of men of great ability in our medical, educational, and research institutions. It was responsible, I believe, today, for the fact that medical advances are coming so fast that it is hard to keep up with them.

I believe very definitely that we must continue this progress. We have a great need for knowledge about the physical body. And the policies as I have seen them develop at the Heart Institute are to try to put the very best brains we can to work with the least possible strings attached to them, with people of integrity and ability. I do not mean that reports are not required, and so forth; but they work on what they think is important and has been generally gone over and approved.

We are trying to get young men to broaden the program, bringing in more able young men, and then, once basic knowledges are available, applied or developmental research and evaluating processes have been put in operation. It seems to me that that is a logical development; that it is something that is going to be in the long run so important to the future health and welfare of our country that we must realize that we cannot cut back and then, 5 years from now, because we have a great emergency, pour in the billions and get the answers turned out by machine. You have got to have the basic seeding of it. That is the real burden of my song.

And I would like to say that it has been a great privilege to have taken part in this as an advisory member of the Council, to see the intelligence and the way in which the excellent administrative pattern has been developing. I would like to appeal across the board, not only for the Heart Institute but for the Institutes of Health, because we don't know where the answer to cancer is coming from. We don't know what scientist is going to find the answer to any one heart problem. We can have some ideas. But knowledge comes as the product of brains in the least expected places, as you know. And it is of vital importance that this total health not be pitted one against the other.

Senator CHAVEZ. It is not a competitive proposition.

Dr. JONES. It is not a competitive proposition. The human being is intact. And we must work on him as an individual that is complex and that we, by general good policies and adequate support are going to learn great things about, as to his functioning in health and disease in the next 25 years.

And in closing, I would just like to say that the knowledges which can come from a continuation, and, I would hope, an expansion—some expansion—of the program, are pertinent alike to war and peace; that we are entering into a period of indefinite mobilization. We do not know when emergencies are coming. And the question that you gentlemen have to decide, and which is going to be of vital importance

to our country, is the intelligence with which we plan our whole economic life and our forward motion. And I believe that it is vital to the continuation of this country as a functioning democracy, clearly recognizing the worth of the individual, that there be no break in the continuity of the addition of knowledge of health. Else we can never pick up.

I would think that in this time—at least, such is my very strong conviction—the adequate support of the very fine programs which have been developed in the past few years in this structure for the National Institute of Health is one of the most important things that this country can do. It has a bearing of great importance, because in time it will impress the people of this country with the fact that brains are important for the continuation of our national welfare.

Senator CHAVEZ. Thank you, Doctor. If I were to write this bill and pass on it, your appeal would be answered very quickly.

(The prepared statement is as follows:)

BY DR. T. DUCKETT JONES, NEW YORK CITY; MEDICAL DIRECTOR, HELEN HAY WHITNEY FOUNDATION; BOARD OF DIRECTORS, AMERICAN HEART ASSOCIATION; BOARD OF DIRECTORS, NEW YORK HEART ASSOCIATION; CHAIRMAN, AMERICAN COUNCIL ON RHEUMATIC FEVER (OF THE AMERICAN HEART ASSOCIATION); MEMBER, NATIONAL ADVISORY HEART COUNCIL, NATIONAL HEART INSTITUTE, NATIONAL INSTITUTES OF HEALTH, UNITED STATES PUBLIC HEALTH SERVICE

Gentlemen, though associated in various capacities with private and public agencies interested in health, especially in cardiovascular diseases, it is my privilege to appear before you as a private citizen. Little more than 2 years ago, the Congress saw fit to establish the National Heart Institute within the framework of the National Institutes of Health of the Public Health Service. The fiscal year 1950 was actually the initial year of operation, with funds sufficient to be considered the beginning of a national program in the cardiovascular disease field. The current fiscal year 1951, represents only the second year in the development of the program. We still have the chief evaluating period of that second year ahead of us. We have indeed run a short course to date, but in this period many important happenings have occurred, not only with regard to this and other health programs but as regards other serious and varied problems besetting our country. It all has an important bearing on the decisions which you gentlemen face at the moment. It would be appropriate first to discuss briefly those aspects which seem directly pertinent to the National Heart Institute, with clear cognizance that these in the main are pertinent also to all of the Institutes of Health:

I. PROGRAM DEVELOPMENT

In the initial concept of the needs in the heart-disease field, content played a major role. Research funds, research fellowships, traineeships, teaching grants, construction funds, and control grants to States were envisioned and included in the act and the directive to the Surgeon General of the Public Health Service. Much of the wisdom for the inclusion of these items came from the experience of the National Cancer Institute. All are also included in the present organization and administration of all of the Institutes of Health. Initially it was thought that about $15,000,000 per year was a generous amount for the development of the program of the National Heart Institute. As will be indicated later, this was largely wishful thinking, because, as the program has developed, indications are obvious that this will be inadequate if satisfactory progress is to be made and if the program is to include the essential phases indicated above. Several experiences may be cited as generally acceptable alike to most administrators, Council members, various State and private teaching and research agencies and institutions, and research workers, as well as many informed private citizens:

(*a*) There has been an extraordinary response on the part of individual scientists and institutions throughout the country. This response would seem to indicate clearly that there are able scientists available to conduct research work in this field. The need for new knowledge is self-evident. One need merely glance at the daily papers to note the frequent deaths from heart disease of persons, often in their

prime, and whose abilities are direly needed in this time of stress. A surprising number of potentially able young scientists have applied for the pitifully small number of research fellowships (and this holds also for traineeships). Medical schools have indicated the need and desire for improving teaching in the cardiovascular field far over and beyond presently available teaching funds. Further, it has become evident that many institutions throughout the country are in need for further laboratories, if able men are to be given the tools with which to work.

(*b*) Many research workers have indicated the necessity for long-term stability and continuity of research support if we are to avail ourselves of potential sources of knowledge of great importance to the health and future of our country. There would appear to be considerable evidence indicating this source of research funds to be acceptable, logical, and vital to the country.

(*c*) Approximately one-fourth of medical school funds, chiefly as separately budgeted research items, now come from Federal sources. The remaining funds come from the States, endowment, foundations, voluntary agencies, industry, and private individuals. The importance of the continuation of such private and State funds and their necessity in the continuity of education and research becomes readily evident.

(*d*) There seems rather general agreement that we have pressing need to increase the number of scientific careers open to potentially able young investigators of ability, integrity, and imagination. The intelligence with which this need is not only met but encouraged seems likely to represent the very essence of the success of the present program. Much progress is being made in this direction but it seems probable that this phase of the program needs expansion. Up to the present, our greater personnel efforts have been at the research fellowship level. We need to explore the support of research men now completing research fellowship level and training. We are presently faced with reduction in our efforts to increase the number of able investigators working in this field. If this be done at present, there is little hope in the immediate future to obtain knowledge which is valuable to us as civilians or as military alike.

II. BRIEF STATEMENT ON WORK NOW IN PROGRESS

As of January 1951 there were some 1,322 grants approved for payment from fiscal year 1951 funds. This represents the total National Institutes of Health research grants. These grants total some $13,496,332 and are distributed among institutions located in 42 States, the District of Columbia, 1 Territory, and 11 foreign countries. Of this number, the National Heart Institute is responsible for 349 research grants, constituting a total of $4,009,765 distributed among institutions in 34 States and the District of Columbia. Work in progress relates to essentially all of the so-called basic medical sciences, and every important cardiovascular disease problem. In two centers there are formally organized research training programs in the basic sciences (physiology and enzyme chemistry). Some concept of the breadth and importance of some of these investigations may be briefly mentioned:

(*a*) A large volume of work is being conducted on the influence of various hormones on body function and equilibrium in health and disease. This work has been greatly stimulated and broadened as a result of the importance of recent contributions on the value of ACTH and cortisone.

(*b*) Less than a year ago new methods were reported which seemed to offer hope of knowledge concerning the development of arteriosclerosis. This work concerns itself with the presence of so-called flotation bodies (actually fatty substances) in the blood of individuals having various evidences of arteriosclerosis. The substances are demonstrated by the use of the ultracentrifuge. The significance of this work is being tested in four important centers. Additional basic chemical work (with this and other methods) is in progress. It may be safely stated that new approaches and methods may be expected to throw light on this important problem of hardening of the arteries.

(*c*) More recently, new findings of possibly considerable importance in the development of high blood pressure have been suggested. New ideas, approaches, and methods of study in a given area largely determine the rate of our progress. Though very much in the experimental stage, there seems hope of important advances here.

(*d*) There is currently in progress an international study planned to determine the effectiveness of ACTH and cortisone in the treatment of rheumatic fever. Some five institutions in this country, one in Canada, and several in England are cooperating. Important information should be forthcoming.

It may be stated also that the prevention of rheumatic fever by the early treatment of streptococcal infections with penicillin should prove a tremendous preventive aid in this period of mobilization—a direct evidence of the importance of research and its application with regard to the military.

(*e*) The National Heart Institute has been designated by the Surgeon General to administer the program of the Public Health Service concerned with blood elements and derivatives. No more important field exists at present. Many studies are in progress in this field—studies of vital necessity to both the military and civilian populations.

III. NEEDS OF THE NATIONAL HEART INSTITUTE

(*a*) *Research grants.*—The care with which applications for research funds are studied, screened, and evaluated is well known to members of this committee. No funds have been expended or grants approved without review by the carefully selected study section panels and consideration by the Advisory Council. This is mentioned merely to indicate that here is no lavish hand-out, but funds are expended carefully, conservatively, and after full consideration of scientific merit, the ability of the investigator, etc. It has never been possible to meet anywhere near the requests that have been screened and approved. Once an application has been approved, it is a difficult task indeed to determine priority and select projects for payment. It is disheartening to able investigators to be told that their applications were approved but funds were insufficient to make the actual grant. This is a consideration which in time may well defeat the purposes of the National Heart Act. Without additional funds it will be impossible to encourage young men to consider scientific careers. An increase of research grant funds to $8,500,000 would vitally improve the research program, increase the utilization of men of ability in the pursuit of knowledge, and speed the utilization of fundamental new knowledge, once it is acquired.

(*b*) *Research fellowships.*—The sum of approximately $300,000 annually for research fellowships is grossly inadequate. Such fellowships are primarily the means of identifying and developing potentially able future investigators. Applications are plentiful, and selection on a rational basis all but impossible. This phase of the program is basic to any well-conceived broad program, and the sum of $1,000,000 is badly needed.

(*c*) *Traineeships.*—If the application of new knowledge is to be improved and speeded, additional funds for traineeships are vitally needed. Funds for such purpose are pitifully small from all sources ($150,000 only from the National Heart Institute). At least $1,000,000 is needed.

(*d*) *Construction funds.*—It has been repeatedly pointed out that most medical schools and other research institutions are in dire need of further space. This is not presently a popular subject. Nevertheless, it is difficult indeed to envision a more important need of the National Heart Institute. Only once has the Congress seen fit to provide funds for construction. Those funds were a godsend. All funds for construction were quickly allocated, and additional laboratories are already available or presently under construction. These funds, however, barely met the needs of a very limited number of institutions where the need seemed greatest at the moment. If knowledge is to be advanced, tools, equipment, and space are an absolute must. Once new knowledge becomes available it is quickly picked up and applied by government (the military also), industry, and other agencies. Construction to engineer or produce new proven substances is then quickly available because of necessity and the visibility of practical results. This is good and necessary, but is it not short-sighted to penalize those scientists from whom our basic and fundamental knowledge comes? These men wish no lavish or pretentious quarters, but unless we wish to slow the acquisition of knowledge they must have space under a roof and tools and equipment. No greater impetus could be given to our present program. This is a nonrecurring item once a reasonable sum has been made available. For the construction of research facilities a total of $18,000,000 ($14,000,000 in contract authority and $4,000,000 in obligational cash) seems a most modest request. It would pay large dividends.

One instance of such a need is well known to this speaker. One group of physical chemists, widely recognized for their contributions to our knowledge of blood and its constituents, are in urgent need of further space and new quarters for their basic research. Fortunately, funds have been made available for the study of processing and the separation of blood into its constituent elements, which is developmental, engineering, or applied research. But funds are unavailable to provide better housing, more space and equipment for the basic research of this group. New knowledge is the hope for the future on which we must

depend to meet our needs—military and civilian. Surely this example amply illustrates the pressing nature of the need for construction funds.

(e) *Teaching grants.*—It has been possible to make grants to only 44 medical schools for extension and improvement of teaching in cardiovascular problems. Only $14,000 has been available to a school. Up to the present, it has had to be a case of first come, first served. In addition, most schools using these teaching funds have indicated that they need a greater sum in order to do an effective teaching job. Many schools receiving no grant have indicated their desire and need for one. Improvement in teaching programs is vital to progress, and certainly all schools could advantageously use funds for this purpose, and with some increase in individual grants. The sum of $1,875,000 is earnestly requested to augment this purpose.

IV. IMPORTANCE OF PROGRAM AT THE PRESENT TIME

In presenting this statement with its attendant request for additional funds for the National Heart Institute, the speaker wishes to make it clear that he is cognizant of the present international situation and tension. Grave problems and decisions face you gentlemen and our country. It is obvious that we are rightly and wisely strengthening our military services, organizing civilian defense, gearing our economy, and taking all possible rational steps to be prepared for somewhat unpredictable events. Despite our hope that such measures will not receive actual testing, and that we may yet have peace, it would be folly not to prepare with our utmost ability and intelligence. Partial mobilization seems essential for an indefinite and indeterminate period. Our economy will be sorely disturbed and tested, perhaps almost to the breaking point. Assuredly, the insidiousness of the enemy's destructive forces often apparently working from within the constant undermining the freedom of thought, action and worth of the individual—the very essence of our democracy—pose difficulties and problems of almost superhuman proportions.

In this battle for survival and winning through for our democratic way of life, the importance of the health of our people is essential. That is why we must move move forward and do more intensive battle than ever before to keep our Nation strong and able to meet the challenges with healthy individuals on whose brain power and strength we depend. Improved health ever depends upon a steady stream of knowledge. The past 25 years has seen amazing advances, and we can be certain that this march will be steady and that knowledge will accrue at an even faster speed. To curtail or cut back would be economically unsound—for health knowledge and progress are pertinent alike to military and civilians—and in war as well as in peace. Here is an opportunity for the greatest possible economy—a physically healthy population, our source of manpower and of brain power. Without health we can make little progress, for actually we vitally need alert and healthier citizens to meet the challenges of the day. With the uncertainties ahead, it would seem folly to take action which would curtail the usefulness of able scientists in the health field. Rather increased effectiveness and use of their brains for the acquisition of new knowledge, seems the only sound economic move. Let us keep constantly in mind the necessity for the continued acquisition of knowledge in advancing our democracy and the worth, dignity, and performance of individuals.

COORDINATION OF INSTITUTES OF HEALTH RESULTS SEEN

Dr. WHITE. May I add just three comments?

Senator CHAVEZ. Certainly, Doctor.

Dr. WHITE. Dr. Jones has brought up the interesting point about the possible competition of the various institutes and their appeals for funds, and I would simply like to add that that sometimes may seem confusing, but it is of vital importance that detailed facts be presented for each area, you might say, so that that accumulated knowledge can finally be added together; so that there is really great cooperation and not competition.

Secondly, I would like to express for my colleagues of the National Advisory Heart Council and for many of our associates over the country, our great confidence and satisfaction in the work we have had with

the officials of the Public Health Service. As Dr. Jones has suggested, in particular our immediate colleague, Dr. Van Slyke, who is executive director of the National Heart Institute, who has, I think, steered things in the most satisfactory way, and I am sure that we have had during the last few years great confidence in the program, which some, when we started, were a little doubtful about.

And finally, last September, Dr. Van Slyke presented in Paris at the First International Heart Congress, the work of the National Heart Institute here to the International group. Several of us discussed his report, and it was of the greatest interest to these 1,200 or more specialists in the field from many different countries, all the countries outside the iron curtain, including Yugoslavia. There were some Japanese doctors and some German doctors and some from Finland there. They were greatly interested in the program of the National Heart Institute. And I had the opportunity then and at other times of presenting this program in other countries, in Mexico and Cuba, and last summer in Finland and Sweden and Holland and Germany, and there was great interest shown everywhere. They are looking to us, evidently, for leadership in this field, and we, I am sure, can maintain this leadership and stimulate world-wide interest in these activities by adding to the budget as we have pled today.

Senator CHAVEZ. Thank you, Doctor.

It is always a pleasure not only to hear the Bureau of Public Health and the officials from the Bureau of Public Health, but you gentlemen. Because you are not looking for a job. You are not lobbying for something that might create a place for some friend.

I appreciate your coming here, all of you, and I thank you.

Dr. WHITE. It has been a pleasure, sir.

(Whereupon, at 11:55 a. m., a recess was taken until 2:30 p. m., this same day.)

AFTER RECESS

NATIONAL INSTITUTE OF ARTHRITIS AND METABOLIC DISEASES

JUSTIFICATION

Senator CHAVEZ. The committee will come to order.

At this time the committee will listen to those who will talk on arthritis and metabolic diseases. Will you come forward, please? Dr. Deforest, the committee hearings are very informal and we would like for you to proceed in your own way to present your case.

We will insert in the record at this point the justification.

(The justification referred to is as follows:)

National Institute of Arthritis and Metabolic Diseases

Description	1951 current budget	1952 budget bureau estimate	1952 citizens budget proposal
Grants:			
1. Grants to medical schools and other institutions and to individuals for research and training:			
(a) Research projects	$645,000	$1,395,000	$3,475,000
(b) Research fellowships	26,900	76,900	125,000
(c) Teaching of medical subjects	0	0	625,000
(d) Training stipends	0	0	31,250
2. Research projects in control and rehabilitation methods	0	0	312,500
Direct operations:			
1. Research: Projects of the former Experimental Biology and Medicine Institute:			
(a) Arthritis	225,000	260,000	500,000
(b) Fundamental research in metabolic diseases	575,000	610,000	937,500
(c) Other fundamental research not directly related to arthritis or metabolic diseases, for example burns and shock, radiation, nutrition, and so forth	894,700	910,000	1,137,500
2. Review and approval of grants	0	10,000	43,750
Total	2,366,600	3,261,900	7,187,500

WHAT HELP ARE WE GIVING TO ARTHRITIS AND RHEUMATISM SUFFERERS IN THIS COUNTRY AND WHAT ARE OUR MANPOWER LOSSES, DUE TO THESE DISEASES?

I. How many people in the United States are suffering from rheumatic diseases?

1. The No. 1 crippler of our people is rheumatism (1).

2. About 7,000,000 Americans are suffering from some type of arthritis or other form of rheumatic disease (1).

Of these: (2)

a. 147,000 are completely disabled.

b. 800,000 are partially disabled.

c. More than 6,000,000 others are subject to chronic or recurrent pain, even though they are able to perform their daily duties.

3. About 1 out of every 20 Americans is a victim of arthritis or other rheumatic disease (1).

II. What does crippling by arthritis mean to manpower for national defense?

1. About 97,200,000 work days are lost each year in the United States because of rheumatism (3).

a. This is equal to an army of 320,000 employable persons out of work at all times (3).

b. Rheumatism sufferers lose an average of 80 working days a year, as compared with an average of 18 days lost for each accident case; and with an average of 13 days a year lost by the average worker in the country because of illness (4).

III. What is the economic loss to the country from arthritis and rheumatism?

1. An estimated annual loss of about $750,000,000. Of this:

a. $520,000,000 a year is lost in wages, by sufferers from arthritis and rheumatism (5).

b. $128,000,000 is spent by taxpayers for relief allowances (5).

c. $100,000,000 is spent for medical care (6).

IV. Who are the commonest victims of rheumatism and arthritis?

1. Ninety-seven percent of all persons who live beyond middle life develop some joint changes characteristic of this disease (7).

2. More than 80 percent of rheumatoid arthritis has its beginnings in the ages between 20 and 50 (7).

3. Rheumatic fever and rheumatic heart disease are the chief causes of death among children aged 5 through 19 (6).

4. Rheumatism is more common among the poor. Half the workdays lost because of it occur in families of $1,000 or less income per year (2).

V. What facilities are provided for the treatment of rheumatism and arthritis?

1. Only about 200 free beds in the country are specifically allocated to the study and treatment of rheumatism (6). Of these there are only about 100 beds specifically endowed for needy arthritic patients (8).

2. Only one person in three suffering from rheumatism is treated by a physician (9).

3. Of the 1 percent of rheumatism patients who get hospital care, few are permitted to remain long enough to receive much benefit (10).

4. Many hospitals are now beginning treatment of arthritis and rheumatism sufferers with ACTH and cortisone, but these substances are only palliatives, as insulin is for diabetes. They must be administered indefinitely at varying intervals.

VI. How many doctors specialize in rheumatism?

1. Rheumatism or arthritis, the main crippler of our people, is not listed as a specialty by the American Medical Association (11).

2. There are about 640 physicians who are members of the American Rheumatism Association (8). This includes a considerable number who do not devote their entire time to rheumatism.

VII. What are we spending for research in rheumatism?

1. The Arthritis and Rheumatism Foundation and its chapters allocated approximately $200,000 for research in 1949 (8).

2. The United States Public Health Service has available $1,471,900 for research to the newly created Institute of Arthritis and Metabolic Diseases for the fiscal year beginning July 1, 1950 (12), only a portion of which has been allocated to research in the clinical use of ACTH and cortisone in arthritis. Basic research to find cures is still urgently needed.

VIII. How does this compare with what we spend on other research?

1. In contrast with approximately $1,671,900 now being spent each year for research in arthritis, rheumatism, and metabolic diseases:

a. The Department of Agriculture spent $30,478,230 for its 1950 campaign for the eradication of foot-and-mouth disease, which campaign is now being conducted in Mexico in cooperation with the Mexican Government (13).

b. Congress appropriated $103,810,523 for the Research Administration of the Department of Agriculture (14).

c. The people of the United States spent approximately: $8,550,000,000 for alcoholic beverages (15); $4,266,000,000 for tobacco products and smoking supplies (16); $8,356,000 for bath salts, tablets and oils (17).

2. In contrast, about $14,020,600 is being spent in the field of cancer research (18).

3. The amount currently available for research in arthritis and rheumatism, the No. 1 crippler, is only about one-sixth of the $10,348,000 voted by Congress for the development of roads and forest trails (14).

IX. What sums, in contrast, are being provided for the fight on other diseases by voluntary agencies?

1. The amounts raised by annual campaigns against other diseases during 1949 include:

	Amount raised	Allocated for research
National Tuberculosis Association	$20,153,476	[1] $116,693 (19)
National Foundation for Infantile Paralysis	22,630,977	1,734,065 (20)
American Cancer Society	13,596,661	3,399,165 (21)

[1] From the national office.

X. What are the possibilities now for effective treatment of this disease?

1. The discovery by Doctors Hench and Kendall of the Mayo Clinic that compound E, now called cortisone, an adrenal hormone compound, showed dramatic palliative results, was announced in April 1949. Great hopes are held that this discovery will open the entire field of the use of adrenal hormones in these diseases. ACTH, a hormone secreted by the pituitary gland, has also been administered to marthritic patients with similar success. At present, administration of either cortisone or ACTH will bring about a complete remission of symptoms in rheumatoid arthritis as long as it is administered, but symptoms recur if the drug is discontinued. Since the original report of Doctors Hench, Kendall, Slocumb, and Polley, many victims of arthritis have been treated with ACTH and cortisone. However, much more research is needed in cortisone and ACTH to determine the

full value of each in the treatment of arthritis and rheumatism, but their discovery gives great hope that through further research better treatments and cures and a better understanding of these diseases will be found (22).

2. Crippling deformity can be prevented in a large proportion of cases if early diagnosis and effective treatment are provided (6).

3. Hope that research may find a specific, final cure for rheumatoid arthritis, in contrast to the temporary relief during ACTH and cortisone treatment, is supported by the fact that the disease tends to disappear temporarily during pregnancy and severe attacks of jaundice (6).

VI. What can be done about this problem?

1. Congress must provide substantial appropriations for a Nation-wide research program under the newly established National Research Institute for Arthritis and Rheumatism and Metabolic Diseases (within the United States Public Health Service) to discover the cause, and to improve and develop the methods for the treatment, cure, and prevention of arthritis and other rheumatic diseases.

a. Establish fellowships to increase the number of men and women qualified to conduct research and specialize in the treatment, cure, and prevention of these diseases.

b. Develop centers devoted to research, teaching, and treatment.

c. Promote better medical and public understanding of the extent of the social and human costs imposed by these diseases and of what can and should be done to assist in their alleviation, control, and prevention.

2. Support the Arthritis and Rheumatism Foundation as the voluntary organization working toward the same ends.

REFERENCES

(1) Rheumatism cripples about 6,850,000 people in the United States, according to National Health Survey Bulletin No. 6, United States Public Health Service, 1938.

(2) Comroe, B. I., Arthritis and Allied Conditions, 1948.

(3) The National Health Survey showed that in 1938 only the mental and nervous diseases, with 132,500,000 days annually, exceed rheumatism, with 97,200,000 days, as a chief cause of working days lost.

(4) George St. J. Perrott, Chief, Division of Public Health Methods, United States Public Health Service.

(5) The Baruch Committee Report on A Community Rehabilitation Service and Center, published June 1946, states on page 5 that the average annual wage of a group of 43,997 persons disabled by diseases and accidents was $148 prior to rehabilitation, $1,768 after rehabilitation; that prior to rehabilitation the majority of the group and their families relied on general public assistance and the average annual cost to the taxpayer was $400 per case. Applying these averages to 320,000 persons who are constantly out of work due to rheumatism; $1,620 by 320,000 equals $518,400,000; $400 by 320,000 equals $128,000,000.

(6) Rheumatism and Arthritis Review, Annals of Internal Medicine, volume 28, numbers 1 and 2, January and February 1948.

(7) Primer on Arthritis, prepared by the American Rheumatism Association, and printed by the American Medical Association, August 1, 1942.

(8) Dr. Gideon K. de Forest, Medical Director, Arthritis and Rheumatism Foundation, in personal interviews, May 2, 1950, and January 19, 1951.

(9) Cancer and Other Chronic Diseases in Massachusetts, by Dr. George H. Bigelow and Dr. Herbert L. Lombard, published in 1933 by the Riverside Press, Houghton Mifflin Co., Cambridge, Mass. Pages 220, 246:

Who treated rheumatism patients:	Where they were treated:
42.9 percent, self	99.2 percent, treated at home
31.5 percent, physician	0.8 percent, hospitalized
22.7 percent, no treatment	
2.9 percent, miscellaneous	

(10) Of the 6,032 arthritis patients discharged in 1933 from hospitals in New York City, most stayed for a month or less—a stay of such duration is almost a waste of time, both to the patient and the physician.

(11) American Medical Association—Letter dated August 13, 1947.

(12) United States Public Health Service, Division of Finance:

Institute of Arthritis and Metabolic Diseases, 1951 current budget

1. Intramural research: Projects of the former Experimental Biology and Medicine Institute:	
(*a*) Arthritis	$225,000
(*b*) Fundamental research in metabolic diseases	575,000
(*c*) Other fundamental research not directly related to arthritis or metabolic diseases, for example, burns and shock, radiation, nutrition, etc	894,700
2. Research projects	645,000
3. Research fellowships	26,900
Total	2,366,600

(13) Budget of the United States, fiscal year ending June 30, 1950. Letter from Matthew J. Cullen, Office of the Director, Executive Office of the President, Bureau of the Budget, Washington, D. C., dated October 16, 1950.

(14) Budget of the United States, fiscal year ending June 30, 1951.

(15) United States Department of Commerce, Office of Business Economics, release 379, June 23, 1950.

(16) United States Department of Commerce Survey of Current Business, national income number, July 1950, table 30, page 25.

(17) Drug Topics, volume 94, number 20, pages 2, 4, and 6; September 25, 1950. Published by Topics Publishing Co., New York, N. Y.

(18) Government funds for 1950–51 approximately $8,805,600; non-Government funds for 1950 approximately $5,215,000.

(19) National Tuberculosis Association, amounts for 1949.

(20) National Foundation for Infantile Paralysis, amounts for 1949.

(21) American Cancer Society, amounts for 1949.

(22) Dr. Cornelius H. Traeger, chief of arthritis clinic, Roosevelt Hospital, and co-chief, arthritis clinic, Hospital for Special Surgery.

STATEMENTS OF DR. GIDEON DE FOREST, MEDICAL DIRECTOR, ARTHRITIS AND RHEUMATISM FOUNDATION; FLOYD ODLUM, PRESIDENT, ATLAS CORP.; DR. JOSEPH BUNIM, NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER; AND EDWARD A. PIERCE, PARTNER, MERRIL, LYNCH, PIERCE, FENNER & BEANE

MEDICAL BACKGROUND

Dr. DE FOREST. I want first to give some of the medical background behind this.

Senator CHAVEZ. Will you kindly identify yourself for the record, first?

Dr. DE FOREST. I am Gideon de Forest, Assistant Clinical Professor of Medicine, Yale University School of Medicine, and Medical Director of the Arthritic and Rheumatism Foundation.

I want chiefly to give the medical background of the interest in arthritis which has eventually gone to create the new Institute for Arthritis and Metabolic Diseases.

A great many people—most people, I think—do not realize what arthritis is. They think of it as a disease which makes you creak in the joints and be stiff and have some pains, but very few people realize the degree of crippling which arthritis can produce. Very few people realize that it is not a disease of age, but a disease which affects people of all ages.

The reason for this misconception is because of the fact that bad arthiritic patients are bedridden and do not get out of their homes, sometimes not out of their beds, so that they are lost to the world, and only those families who are intimately associated with such patients know about them.

It has been a disease which the medical profession has felt rather pessimistic about, as far as therapy goes, and has ignored for many years as far as doing any fundamental research work in discovering its cause and real nature.

There were a group of people all over the world interested in this disease back in 1925 who tried to found or did found an International League in the hopes of getting some sort of coordinated effort to try to search for the cause of this disease. Committees were set up in various countries, and in 1928 in this country, the American Rheumatism Association was formed which was a group of interested competent physicians, who banded together to have meetings each year at which papers were presented on this subject. They published a primer on arthritis which was published and distributed by the American Medical Association, and they published each year, or nearly each year, a review listing all of the work that has been done since the previous review was published.

ARTHRITIS AND RHEUMATISM FOUNDATION

They found after a short time that they had no funds to work with, really, and the need for these funds was very great. Consequently, the Arthritis and Rheumatism Foundation was founded in 1948, largely through the efforts and interest of laymen and medical men who were members of the American Rheumatism Association.

Among the last things that the American Rheumatism Association did before the foundation was founded was to ask the National Research Council to make a survey of this disease problem, this was done, and you will hear later the statistics from their survey, which are quire startling.

I might mention only a few to begin with, namely, that there was only at that time, in 1948, about $300,000 being spent in research in chronic arthritis, and of that $300,000, about a third of it was in the hands of universities; so that you can readily appreciate how meager the funds were for other institutions. They found that there was an appalling lack of facility for care of people, that though the study of arthritis was taught in all medical schools, it was taught with real emphasis in only a few, simply because most medical schools did not have men in them who were particularly interested in this disease problem.

As a consequence of this a great many of the men practicing today have had very little experience, clinical experience, in arthritis.

The Arthritis and Rheumatism Foundation wants particularly to back both the professional and the lay educational program, and to establish research fellowships in the basic sciences related to the fundamental cause of this tremendous disease problem.

FELLOWSHIPS GRANTED

Last year we granted seven fellowships in the basic sciences and we are launched on another broader program this year.

We have found since we have been in existence these last 3 years that in the country there are only 170 arthritis clinics. Now, an arthritis clinic is a clinic staffed by men particularly interested in this disease problem. Ordinarily, individuals going to large general hospital

out-patient clinics at least are seen by a rotating staff of men who are interested in general medicine, but have no particular interest in arthritis. Consequently, a great many of these patients are treated in a very superficial way. In an arthritis clinic they are seen by interested and competent physicians. And we were quite surprised to find that in the whole country there are only 170 clinics. About 75 percent of these clinics are in 8 cities in the country. So that you can see how poorly equipped a good part of the country is to take care of this problem.

Dr. Bunim will speak to you later about New York, which probably is better equipped than most any city we know of in the country, as far as arthritic clinics are concerned.

There are 15 States in the country that haven't got one arthritic clinic. And if you can see the correspondence which comes to the foundation from individuals who have written us, asking for advice, saying they have spent all their money, and have gotten no better, and look upon a map, as I do, to try to find someone to take care of them, you would appreciate what a difficult situation a great many of them are in, because I cannot find clinics or specialists within hundreds of miles of these individuals.

I would like to close by reading to you something from this prepared statement of mine.

EXTENT OF RHEUMATIC DISEASES

On the basis of the foregoing résumé on the menace of the rheumatic diseases to the country, and the limited resources for control, the arthritis and rheumatism foundation respectfully petitions this committee for a substantial appropriation to the Institute for Arthritis and Metabolic Diseases, which will effectively implement its program of work.

There can be no question that the rheumatic diseases are a national health problem of the first magnitude by reason of their volume and economic cost, which you will hear more of in a few minutes. They are a legitimate Government responsibility.

NEED FOR GOVERNMENT COOPERATION

There is ample precedent for cooperation by Government in voluntary supported programs for arthritis research and public education; witness Government cooperation in health programs for the control of heart diseases, tuberculosis, and other chronic diseases.

Most important, a substantial Government appropriation at this time will be a genuine contribution to the country's defense effort.

Arthritis is associated with extreme physical and mental strain and fatigue. Defense production is accelerating, and millions of 30- to 50-year-old workers will be recruited for high-pressure defense industries. Public Health Services must intensify their programs of health information in the interests of disease prevention.

Information should broadcast on the hazards of rheumatic diseases. Furthermore, Government funds should be available to supplement private maintenance of arthritis clinics, so that workers in danger of arthritis or other rheumatic disease may obtain early diagnosis and treatment.

Finally, Government funds should supplement and augment private research as insurance for the rehabilitation of members of the Armed Forces disabled by arthritis and rheumatism. Some of the most crippling forms of arthritis strike young men and women. In World War II, arthritis was a major cause of medical evacuation of American soldiers from north Africa and other war theaters, according to a recent statement by Judge Robert P. Patterson, former Secretary of War:

> During the intensive war years of 1934 to 1945, arthritis caused the loss of 275,000 man-days among the highly selective Army personnel and required the establishment of five large rheumatism centers in this country, and the full toll has not yet been counted. Veterans' Administration hospitals recorded 33,878 veterans seeking treatment for arthritis and rheumatism during the year 1949 alone, 4 years after the war was over. Most of them can trace arthritis directly to the war conditions under which they lived.

Medical reports are not yet in hand from the troops in Korea, but the exposed terrain, the severe climatic conditions, and the nature of the fighting are factors associated with a high incidence of arthritis.

"The funds available from all sources for research in arthritis and related diseases are not even a good-sized drop in the bucket compared with the need," declared Surgeon General Leonard A. Scheele in a November 1950 meeting of rheumatic-disease specialists in New York City.

Clearly, if headway is to be made in controlling rheumatic disease, the abundant resources of the Government must be called upon. Rendering the necessity for vastly increased research the more urgent is the fact that uow, with the discovery of the hormones ACTH and cortisone, medical science has at last clues pointing to a solution of the mystery of arthritis in the foreseeable future.

Senator CHAVEZ. Doctor, what budgetary information did the Institute have, upon which you base your citizens' budget proposal?

GRANTS, RESEARCH PROJECTS

For instance, you have there under "Grants, research projects" where you are requesting $3,475,000. Upon what do you base that request?

Dr. DE FOREST. The Surgeon General received requests for research from the Arthritis and Rheumatism Institute totaling $2,524,608. This was, Senator Chavez, the result of a rather urgent request from him that was sent out to the Foundation to find out what interest there was, what the need was for research grants; and, actually, only about one-fifth of the medical schools applied. We haven't here any information as to how much of that $2,524,608 is for arthritis and how much of it is for metabolic diseases.

Senator CHAVEZ. Do you recall, or have you the information, as to what the Public Health Bureau requested of the Bureau of the Budget when they made an appearance on this particular matter?

The Budget Bureau, I notice, approved $1,395,000 on the 1952 budget.

Dr. DE FOREST. Yes; that is the only figure I know of.

RESEARCH FELLOWSHIPS

Senator CHAVEZ. All right, now. In the 1952 budget the Budget approved $76,900 for "research fellowships." You are requesting $125,000. Do you know whether the $125,000 was what was originally requested by the Public Health Bureau?

Dr. DE FOREST. No; I do not know that, Senator.

Senator CHAVEZ. Then we have here "Teaching of medical subjects," and the Budget Bureau did not approve anything and you are requesting $625,000.

Dr. DE FOREST. Yes, sir.

Senator CHAVEZ. Then under "Training stipends" the Budget Bureau did not approve anything and you are requesting $31,250.

I notice on "Research projects in control and rehabilitation methods" nothing was appropriated in 1951 and the Budget Bureau did not allow anything in 1952, but the citizens' budget proposal amounts to $312,500; is that correct?

Dr. DE FOREST. Yes, sir.

TOTAL BUDGET REQUEST

Senator CHAVEZ. Anyway, the total request of the Institute of $7,187,500 is based upon information that you had that would reasonably take care of the problem for the year 1952?

Dr. DE FOREST. Yes.

Senator CHAVEZ. Am I stating that correctly?

Dr. DE FOREST. Yes; you are.

Senator CHAVEZ. Thank you, sir. Is there anything further that you care to speak to, Doctor?

Dr. DE FOREST. Only this: Namely, the subject that you brought up, and that is that on the Budget Bureau's estimate there is no figure for teaching medical subjects at all. It seems to me that is what is revealed in this middle column here.

Senator CHAVEZ. Yes; I see. That is true.

Dr. DE FOREST. The great problem is teaching and research. What the foundation has found out this year is that, through work its members have done in county medical societies, speeches they have given, clinics they have held and forums they have held, there is a tremendous amount of interest on the part of men who have already graduated from medical schools who have had very little exposure to this problem before, and who want it. There is a tremendous need for postgrauate teaching as well as undergraduate teaching.

Senator CHAVEZ. Dr. de Forest, what you want to tell the committee is that, as far as items (*c*) and (*d*) are concerned and as far as No. 2, "Research projects in control and rehabilitation methods," is concerned, while the Bureau did not have any appropriations in 1951 and while the Budget Bureau did not allow any amounts on the 1952 budget, you still think the program should go on?

Dr. DE FOREST. Yes, certainly.

Senator CHAVEZ. Very well, thank you.

Mr. Odlum, will you proceed?

EXTENT OF ARTHRITIS

Mr. ODLUM. My name is Floyd Odlum. I am the chairman of the Arthritis and Rheumatism Foundation. I am a member of the Advisory Council of the Arthritis and Metabolic Diseases Institute within the United States Public Health Service. I am chairman of the Lovelace Foundation, and Clinic, which is striving to do some research work in this field.

Senator CHAVEZ. May I interrupt to advise that that place is located in my home city, Albuquerque, N. Mex.

Mr. ODLUM. That is right. We have a great arthritis specialist there, too.

I happen also to have been a sufferer from one of the most severe types of arthritis, and one of the lucky few who has pulled through it.

In all those capacities I appear and urge that funds be appropriated to implement the work of the Arthritis and Metabolic Diseases Institute. This is the disease that has been overlooked for almost centuries, because nobody can fathom the cause or the cure, and because it took in such a broad category all the way from the twinges and aches that they call the misery down in the South, the most crippling forms, the one that causes more deaths than any other disease among our youth; that is, rheumatic fever, and the crippling rheumatoid arthritis.

There are 7,000,000 people in the United States who suffer from one form or another of arthritis or rheumatism. A very fair portion of them are either wholly or partially crippled. In terms of money alone, in costs to this Government, we lose approximately a billion dollars a year, either in loss of wages through manpower loss, which amounts to about 100,000,000 man-hours, or through relief, where we have to take care of these people when they become crippled and disabled, or in medical attention.

The worst part of it is that most of these people who have arthritis do not get any medical attention. A very few beds in the United States, perhaps as few as 200, are allocated for the arthritis patients. Dr. de Forest has pointed out how few clinics there are in this country.

There was just a frustration about this whole thing until perhaps 3 years ago, when the attack against arthritis and rheumatism was more or less energized by the American Rheumatism Association, through the formation of the Arthritis and Rheumatism Foundation.

PRIVATE CONTRIBUTIONS

A group of these doctors came to me at that time and asked me if I would head up a foundation that would try and get some financial help from the public to attack this problem at its source—namely, through research—because that is the only way that you can really lick it. You can go on and take care of patients by the millions a year, and unless you find the cause of it and the cure for it you keep that up forever. But, by attacking it at the source and finding the cause and the cure, you can stop it in its tracks.

We have had three public requests for funds. The first year, I believe, we raised about $400,000; the second year we raised about $800,000, and this last campaign we raised about $1,000,000. Such

net as we had, after carrying on our organization and operating expenses, we have devoted to research just in the same way that the Public Health Service through the Arthritis Institute would devote these public funds.

We think we have accomplished a great deal, but it has been nothing but a fleabite compared with what must be accomplished.

The total funds that have been spent are so infinitesimal; the whole amount that we are asking to implement the work of the Arthritis Institute is perhaps a fifth of the money that was appropriated last year to work on foot-and-mouth disease among cattle.

We have 2,000,000 human beings at stake here.

Senator CHAVEZ. I called attention this morning, Mr. Odlum, while you were listening to the testimony on heart research, to the fact that we have spent in New Mexico alone $120,000,000, not to get rid of but to try to control foot-and-mouth disease. That is $120,000,000.

Mr. ODLUM. That is correct.

During these past 3 years there have been some developments of utmost importance, through the creation of ACTH and cortisone, which by no means spells the cure or finds the cause of arthritis, but are on their way; they are keys to research. I have made the statement during the last campaign at public meetings that my job was to make the Arthritis and Rheumatism Foundation inoperable, or to put it out of business; and I believe, if we could get enough people together in research, that we could put it out of business within the next 3 to 5 years, because through this research we will find out the cause and the cure. It is impossible through private funds to get enough to get this program working the way it must work. The dollars that are spent through public-fund research—that is, grants-in-aid to research centers, the training of fellows to work in research centers, the training of doctors—will come back to the United States Treasury many times over and every year. Because, if you only take care of a few of these who are out of circulation on account of arthritis, you will many times pay off the money that is spent, and I believe we will do that.

We have reached the limit of our capacity through private funds. We believe that we should devote some part of our private funds to the helpless and financially disabled patients through the country.

I would like to see what our foundation gets from now on used to a large degree in that field and let the public funds be used in the research, which is the more important form.

I am not going to bring up statistics, except to urge that there is no problem dealing with the health and comfort of our people that in my opinion is as important as this problem of arthritis and rheumatism. We are spending a small fraction in this field of that which is being spent in cancer and heart and polio and some of the others, and the consequences to our population and the health and comfort of the people far outweigh all others in the arthritis and rhemuatism field.

AMOUNT REQUESTED

Therefore, I again, in closing, without trying to submit a lot of figures, urge that the funds be appropriated. I don't know the details of this schedule or how it is built up, but I know that the total of

$7,000,000, according to my knowledge, is the minimum that we could hope to spend during the coming year to get any telling results.

Thank you very much.

Senator CHAVEZ. Mr. Odlum, you are a man of the world and have been in business, and in my opinion you have a thorough knowledge of what national defense is.

Aren't there a lot of people who could contribute something, probably a physical or mental contribution, to national defense, who are now incapacitated due to arthritis?

Mr. ODLUM. Our figures indicate, Senator, that there are the equivalent of 320,000 full-time people completely out of working ability, due to arthritis and rheumatism. We can add that many people if we can find the cause and get them back on their feet and working.

Now, some of these people are working, of course, part-time. The average part-time working arthritic is out of work about 80 days in every year, whereas the average worker's time home through sickness and what not is about 12 or 13 days.

Senator CHAVEZ. Except for the Government—they have about 30.

Mr. ODLUM. About 30; yes.

When you are talking about $7,000,000, I don't know where $7,000,000 can be better spent, and with quicker results, than to attack this thing right at its wellsprings. That is, with these keys we have now, and with the centers that are ready to go on with their scientists and the ones we are going to create, to train in this field, I repeat that I believe within 5 years there would be no problem in this country dealing with it, and then 7,000,000 people who are now sick or sick part of the time would be well.

Senator CHAVEZ. Another short question, Mr. Odlum. Your experience with arthritis was brought about the hard way.

Mr. ODLUM. It certainly was.

Senator CHAVEZ. And, of course, now you are trying to justify an appropriation to take care of that kind of a disease with which you are suffering—that is correct, is it not?

Mr. ODLUM. I have gone through it.

EFFECTS OF RHEUMATOID ARTHRITIS

Senator CHAVEZ. Can you give us a brief statement of the effects of the disease, from your personal experience?

Mr. ODLUM. Well, the disease known as rheumatoid arthritis, which is one of the more crippling forms of arthritis, is the kind that I suffered with. I had the means and perhaps the intent and determination to get to the bottom of the thing. There wasn't an outstanding arthritis man in the United States, I guess, that I did not consult. I tried every treatment that was known. I do not know how I happened to pull through it, because I have had occasion to know how many suffer with this same type of disease and what the course of it is. I have within my own means taken many individuals and given them the benefits of medical science and I have seen them brought back to at least a partial state of rehabilitation.

I know it can be done because I have done it with myself and with others. And if the whole mass of people can get anything like the same thing, the results in terms of happiness and comfort and health of our citizens which cannot be measured in dollars is outstanding,

and measured in dollars alone the return into the United States Treasury will be manyfold.

Senator CHAVEZ. What are the effects of the disease? Are they painful or do they just incapactiate you?

Mr. ODLUM. Oh, no. The disease attacks your tissues, your tendons, your joints. There is an excruciating pain. I spent 8 months in bed. I couldn't move, I couldn't touch my feet on the floor. Many people who get it and get into that condition never touch their feet to the floor.

Senator CHAVEZ. What does it affect? The joints?

Mr. ODLUM. It affects the joints and the muscles. It will affect any part of your body.

Senator CHAVEZ. The muscles?

Mr. ODLUM. The muscles and the connective tissues. They are finding through the cortisone now that it has something to do with the metabolism of the body, something to do with the connective tissue.

But believe me, it is extremely painful. The muscles and the joints swell up and they get so they are deformed. Your hands get twisted out of position and your arms get so you cannot move them. Your feet get so they cannot be moved and you are a complete cripple, in most cases.

Senator CHAVEZ. I do not want you to think my questions are personal at all. This is the first type of hearing on arthritis that we have had before the committee. We have had general ideas, and we all have had more or less some knowledge, or at least an imagination of what it was, but you are the first one who has ever appeared before the committee to give us first-hand information of its effects and results.

Mr. ODLUM. I think it causes more pain than any other disease in the aggregate known to mankind.

Senator CHAVEZ. Thank you, sir.

Dr. Bunim?

STUDY OF ARTHRITIS AT MEDICAL SCHOOLS

Dr. BUNIM. Thank you, Senator. I am Dr. Joseph Bunim, consultant to the Surgeon General of the United States Army and associate professor of medicine at New York University College of Medicine. I have been teaching medicine to undergraduates and postgraduate medical students for the past 20 years. I am chief of the arthritis clinic at Bellevue Hospital, a municipal hospital in New York City, and chief of the clinical research section of the study group on rheumatic diseases at New York University Bellevue Medical Center. This study group has been supported since its inception in 1948 by the Masonic Foundation for Medical Research and Human Welfare. I am chairman of the medical and scientific committee of the New York Chapter of the Arthritis and Rheumatism Foundation.

For the past 20 years I have been actively engaged in scientific research in rheumatic fever, rheumatoid arthritis, and other rheumatic disorders.

I know that you are aware that we are now witnessing the beginning of a new era in our understanding of rheumatic diseases. Heretofore

these ailments, unfortunately, were considered merely a mechanical problem, and were relegated to the sphere of physiotherapists, the brace makers, and masseurs. Arthritis was the stepchild of medicine.

Now, you may ask, with good reason, why, in the face of the staggering prevalence of this disease, has there been such disheartening indifference these many decades on the part of the medical schools, the hospitals, the practicing physicians, as well as the public; why such apathy, despite the appalling loss of manpower to industry, to farming, to science, and even to the war effort?

From my personal observation as a teacher of medicine, it has become clear that interest in a given disease by a medical-school faculty, by medical students, and by practicing physicians will depend, not upon the frequency or the incidence of the disease nor even upon its importance to the Nation's economy, but upon, first, the chances of effecting a cure or marked improvement once the disease has been correctly diagnosed; and secondly upon how appealing it is to the research worker; and, thirdly, upon the amount of scientific and precise knowledge that has been contributed to the field.

Rheumatic diseases offered to the medical student and physician these many decades no lure of a cure or even improvement. It carried no prestige because there was no pedestal of basic scientific data to support it; no firm pathological, physiological, biochemical, or microbiological foundation upon which to build.

But, within the past 20 years, the picture has changed radically. A humble beginning was made when modest endowment funds and grants-in-aid were given to research groups in Michigan, Boston, and New York. And about the same time, in 1930, the American Rheumatism Association was formed.

With great vigor and exertion a handful of scientists in this country, the founders and guiding lights of the American Rheumatism Association, began to distill the sound and scientific facts from the mass of traditional and popular, but loose and unproven concepts and nostrums. They have been publishing these annual reviews since 1935.

Much encouragement and financial help have come from the generous and admirable efforts of the Arthritis and Rheumatism Foundation which has been established since 1948.

In September of the same year occurred the epoch-making discovery of the remarkable effects of cortisone and ACTH on rheumatic diseases. Even today, 3 years later, we are unable to fully grasp the significance of the great contribution to this difficult and baffling field in medicine.

I might add that we do not yet understand the mechanism of action of these powerful hormones. Nevertheless, of all the chronic diseases to which man is susceptible, arthritis today offers greater rewards to the physician for his efforts than any other disease I can think of, with the possible exception of diabetes.

Senator CHAVEZ. Will you not add to that as a reward to the medical man, that it also, that research also offers relief to the sufferers of the future or present?

Dr. BUNIM. Yes, sir; I certainly do.

Senator CHAVEZ. Don't forget them. They are the ones we are trying to reach.

ADVANCES IN ARTHRITIS RESEARCH

Dr. BUNIM. Heart disease, nephritis, cancer, leukemia, poliomyelitis, once established, cannot be cured or reversed. Yet within the last 3 years it has been conclusively demonstrated that rheumatic fever is a preventable disease and rheumatoid arthritis, the fiercest and most relentless crippler of them all, can be reversed, especially when treated early.

Where once there was apathy amongst research workers now there is an exciting challenge; where there was confused thinking among the doctors, there is now the beginning of enlightenment; where there was despair among arthritis victims, there is at last hope.

In the ever-mounting medical literature on the subject of arthritis, descriptive dissertations have given way to hundreds of scientific treatises on the effects of cortisone upon the physiological, biochemical, metabolic, histopathological, immunoligical, and allergic reactions in man and experimental animal. Rheumatic diseases have at least been admitted into the sanctum of the basic and clinical sciences. They have finally achieved status, and, with this, we witness today the dawn of a new and important period in our knowledge of these menacing and crippling disorders.

What better time than now, and what better cause than this can one choose, if one is to appropriate funds in support of scientific research, professional education, and adequate medical care? The trigger point in this chain reaction is research. Give to the struggling medical schools grants-in-aid for research in arthritis and metabolic diseases and you will open laboratories and clinics across this country which will constitute wellsprings of new and needed knowledge. Keen minds and skilled hands will be drawn to them, the interest of medical students in this subject will be aroused and better education will inevitably follow.

INADEQUATE RESEARCH AND EDUCATIONAL PROGRAM

Research and education, I need hardly add, lead invariably to better medical care.

How inadequate medical care is today may best be ascertained from a preliminary survey completed only last month of the arthritic clinics in the leading city of this country. It was found that there are 41 arthritis clinics in New York City, staffed by only 130 doctors, which take care of 10,000 underprivileged patients a year, who make 78,000 visits annually. Although there are more clinics in this city per capita of population than in any other city in the Nation, they are inadequately staffed, poorly equipped, unevenly distributed, and unable to receive thousands of patients in need, who cannot reach them.

For example, in Richmond County, which has a population of 200,000 people, there is not a single arthritis clinic. In Kings County, better known as Brooklyn, in which reside 35 percent of New York City's population, or 2,750,000 people, there are only 5 arthritis clinics, or approximately 1 clinic to service half a million people.

In the Bronx, with 18½ percent of the city's population, there are only two clinics, or one clinic for 750,000 people.

I do not want to take more of your time, or labor this point. Let me simply say the need is great and the opportunity is promising.

To paraphrase a Churchillian statement, "Give us the tools and we will begin the job."

Senator CHAVEZ. Have you as a medical man in this line of work any information from which you could form a conclusion as to what the effect on the military service boys will be?

Dr. BUNIM. They are very apt to develop two diseases which come under this group. One is rheumatic fever and as you know, the number of men who developed rheumatic fever for the first time in their lives during World War II ran into the thousands, many thousands.

Right now, I might say, at one of the important air bases in this country, within the past 3 months, 52 men developed rheumatic fever for the first time. There were months in World War II when there were——

Senator CHAVEZ. Pardon me right there. Were these boys who had foreign service or boys in training for foreign service?

RHEUMATIC FEVER IN MILITARY SERVICE

Dr. BUNIM. Boys who were especially recruited from civil life in the United States, who came up for training in this air base and developed rheumatic fever while in training, while in the first 14 weeks of training.

Senator CHAVEZ. Then also the ones who are in foreign service are apt to be affected?

Dr. BUNIM. Yes, very much so.

Senator CHAVEZ. Thank you.

Dr. BUNIM. These men, if as a result of this rheumatic attack they should develop rheumatic heart disease, which is very likely, they would then be a drain on the Government expense for the rest of their lives. That would run into the millions of dollars.

Senator CHAVEZ. What brings about that particular condition? Is it lack of resistance, or their physical condition at the time of induction, or what?

Dr. BUNIM. I would say if I have to put that in one sentence, the inability to handle the hemolytic streptococcus infection of the throat.

Senator CHAVEZ. At the moment it takes effect?

Dr. BUNIM. Yes.

Senator CHAVEZ. So it is a question of timing, in order to prevent the expansion of the disease?

Dr. BUNIM. That is right.

Senator CHAVEZ. Thank you, sir.

Mr. PIERCE?

FUND RAISING FOR ARTHRITIS AND RHEUMATISM FOUNDATION

Mr. PIERCE. Thank you, Senator. My name is Edward Allen Pierce. I am a senior partner in the firm of Merrill Lynch, Pierce, Fenner & Beane, an investment banking house.

Senator CHAVEZ. Where is that located?

Mr. PIERCE. In 97 points in this country.

Senator CHAVEZ. Pardon my ignorance. I am not used to that. I can talk to doctors and medical people.

Go ahead, sir.

Mr. PIERCE. I wish I could talk to the doctors.

As a matter of fact, while I am by no means insensitive to the suffering of something like seven and one-half million people in this country, my activities run along the line of endeavoring to raise as much money as I could in our industry, and it has been very hard work, Senator.

Senator CHAVEZ. You mean for the institute?

Mr. PIERCE. The Arthritis and Rheumatism Foundation.

Senator CHAVEZ. I see. Did you learn it the hard way, too, like Mr. Odlum?

Mr. PIERCE. No. I haven't had an ache or pain in my life. Maybe that is why I am sympathetic.

Senator CHAVEZ. All right.

Mr. PIERCE. As I see it, this is a subject that is of primary importance to the people, that is, national defense. Funds for national defense have been promptly appropriated by the Congress of the United States in amounts required to meet emergencies whenever their urgency has been made manifest, which obviously is as it should be. When facts are made known to our legislative representatives, it is in the hope that they will act upon these facts.

I propose, therefore, putting this committee in possession of some facts relative to one aspect of national defense. It is an aspect that perhaps has not been fully considered and it should be.

RHEUMATIC DISEASES AS MENACE TO NATIONAL DEFENSE

Rheumatic disease represents a grave menace to our national defense. At a time when every American should be producing, more than 7,000,000 Americans are unable to work at top efficiency, if at all, because of rheumatic disease.

Of these people, about 1,000,000 are completely or partially disabled. The rest are able to go about their daily routine suffering pain and discomfort in varying degrees and losing time from work when it becomes necessary. That it frequently becomes necessary is evident from the fact that an estimated 97,200,000 workdays are lost each year in the United States, due to arthritis and rheumatism.

Next to the common cold, rheumatism is the greatest single cause of absenteeism in industry. The average worker loses 13 days each year because of illness of all types. The average accident case costs 18 days of lost working time, but the average rheumatism sufferer loses 80 days each year. This is equivalent to a group of people continuously unemployed. Think of that, 320,000 able-bodied workers or soldiers; think what it can mean. And, but for rheumatic disease, these would be able-bodied workers or soldiers.

Since we must meet this problem in terms of dollars and cents, let me put it another way: What does rheumatic disease cost us in money? It is truly a staggering sum, even to those accustomed to large figures, as are you, Senator.

Rheumatic disease cost the American people every year three-quarters of a billion dollars.

Seven hundred and fifty million good American dollars go down the drain every year because of these ailments. At a time when taxes are going up and living costs are rising, this represents a sum which would be worth saving. It would be worth saving at any time. But we have

been losing this money every year for decades, and we shall continue to lose it until the drain is plugged.

The smallest part of this sum, $100,000,000, is spent on medical care. And in passing, let me note that the greater part of the costs of this medical case is met by charitable sources. Most of the lost money is represented by lost wages. This amounts to about $520,000,000 annually. And no less than $128,000,000 is spent each year, mostly by local governments, for relief allowances to victims of rheumatic disease and their families. This unusually high relief cost is due to the fact that rheumatism is generally a poor man's disease. This is a very interesting point, it seems to me, Senator. Families whose total income is $1,000 a year or less account for 50 percent of the lost working time that I mentioned earlier. That is an intolerable situation.

Here we have a large group of American citizens who should be producing wealth. Instead, they are consuming the goods and services of others. They should be paying taxes. Instead they are adding to the tax load of others. And there is good reason to believe that the situation will get worse each year, that the number of afflicted people will increase, putting each year more workers on the absentee list, losing more wages and increasing the number of persons on the relief rolls.

TYPES OF ARTHRITIS

There are many diseases which we group under the general term of a rheumatic disease. Probably the three most serious are rheumatoid arthritis, rheumatic fever, and osteoarthritis.

Rheumatoid arthritis usually strikes young and early middle-aged adults between the ages of 20 and 50.

Rehumatic fever generally attacks children. It is the chief cause of death among children aged 5 to 19. But osteoarthritis is the most common of all. It attacks 97 percent of all persons who live beyond middle age, in some degree, at least.

Now, it is a well-known fact that the age of the average American citizen is increasing every year. Proportionately, we have fewer young people, more middle-aged and old people. This process will continue for many years, and while it does we can expect to see the incidence of osteoarthritis rising, crippling more people every year.

SUPPORT OF ARTHRITIS INSTITUTE APPROPRIATION

There is a convenient weapon at hand which can be used to strike back at arthritis and rheumatism. It is the Arthritis and Rheumatism and Metabolic Diseases Institute of the United States Public Health Service.

This agency was created last year and on its advisory board are some of the world's leading specialists. The institute is admirably equipped to meet the emergency in every way but one. You can help supply the one thing that is needed, and that is money.

To carry on its work, to sponsor research, to train research workers, and clinical workers, the Institute needs the relatively insignificant sum of $7,187,500 for the coming year.

As a businessman and a taxpayer, I must point out that an opportunity to save $750 million merits the investment of $7,187,500.

As an American, I must protest that it is a line to the American spirit to take a beating lying down. And we are taking a beating from arthritis and rheumatism. And we are lying down.

When our military experts have testified before the congressional committees on matters affecting national defense, our Government has been prompt in making the necessary appropriations for material and personnel.

The testimony I have given is relative to the same problem.

You have the facts. Won't you please act on them?

Won't you, please, vote full support to the Institute for Arthritis and Rheumatism and Metabolic Diseases in its efforts to eliminate these diseases as a source of disability, pain, lost wealth, and lost manpower.

Senator CHAVEZ. Thank you, gentlemen, very much.

Mr. PIERCE. Thank you, sir.

NATIONAL INSTITUTE OF NEUROLOGY AND BLINDNESS

STATEMENTS OF DR. HOUSTON MERRITT, DIRECTOR, NEUROLOGICAL SERVICE, NEUROLOGICAL INSTITUTE, PRESBYTERIAN HOSPITAL, NEW YORK, N. Y.; KARL VAN METER, EXECUTIVE DIRECTOR, UNITED CEREBRAL PALSY ASSOCIATION; EDWARD LOCKE, VICE PRESIDENT, CHASE NATIONAL BANK; DR. DAN GORDON, CORNELL MEDICAL SCHOOL, AND J. M. ULMER, ATTORNEY, CLEVELAND, OHIO

JUSTIFICATION

Senator CHAVEZ. We will proceed with the Neurological and Blindness Institute. I will insert the justification at this point in the record.

(The justification is as follows:)

National Institute of Neurology and Blindness

Description	1951, current budget	1952 Budget Bureau estimate	1952, citizens' budget proposal
Grants:			
1. Grants to medical schools and other institutions and to individuals for research and training:			
(a) Research projects	$300,000	$1,050,000	$1,875,000
(b) Research fellowships	2,400	52,400	156,250
(c) Teaching of medical subjects	0	0	937,500
(d) Training stipends	0	0	125,000
2. Research projects in control and rehabilitation methods	0	0	312,500
Direct operations:			
1. Research	0	75,000	312,500
2. Review and approval of research and training grants	0	10,000	31,250
Total	302,400	1,187,400	3,750,000

FACTS ABOUT MULTIPLE SCLEROSIS

I. What is multiple sclerosis?

Multiple sclerosis, also known as disseminated sclerosis, is one of a rather large group of chronic diseases of the central nervous system. In multiple sclerosis one finds many areas in the brain and spinal cord, scattered indiscriminately through-

out the central nervous system, in which myelin (a fatty sheath which in normal healthy individual covers the nerve fibers) has been dissolved or destroyed.

The process by which this dissolution or destruction is accomplished is not known, but it causes either complete stoppage of these nerve impulses, thus producing paralysis of the parts of the body innervated by these nerves, or the impulses pass through the affected nerves either enfeebled or altered, so that those parts of the body innervated by such nerves perform their functions in a disturbed fashion.

(*a*) Symptons: Double vision, staggering and inability to keep one's balance, numbness of parts of the body, tremor, nystagmus (involuntary movements of the eyeball), extreme weakness, speech difficulties, emotional disturbances, bladder troubles—these are common first symptoms.

II. How many people die of multiple sclerosis in the United States?

There are at present no available figures as to the number of deaths from multiple sclerosis in the United States. Multiple sclerosis is not a reportable disease and does not appear on morbidity statistics. (It is the actual cause of death in many instances where the cause of death listed is some other disease which has been brought on by multiple sclerosis, such as pneumonia, heart, poor circulation, and infections.)

III. How many people are suffering from multiple sclerosis in the United States?

With the present status of medical knowledge, no figure can be given or even estimated with any degree of accuracy as to the number of people suffering from multiple sclerosis in the United States. An estimate would be well over 100,000. It is a disease of extremely difficult early diagnosis, and thousands of cases are thus missed. It is frequently misdiagnosed as hysteria, syphilis, polio, and other neurological diseases.

A statistical survey is now being conducted by the National Multiple Sclerosis Society in cooperation with the Federal Security Agency which will determine the incidence of the disease and the effects of climate, race, and geography on multiple sclerosis. This survey has been under way for the past 2 years, and it is hoped that it will be completed and reported on by the end of 1950.

IV. What is being done to help multiple sclerosis sufferers?

Until the advent of the National Multiple Sclerosis Society very little was done to help multiple sclerosis sufferers.

(*a*) No beds are available in private or public hospitals in the United States specifically for multiple sclerosis patients, and they are not admitted into most hospitals because of the chronic nature of multiple sclerosis. A few hospitals for chronic diseases scattered throughout the United States do admit an occasional multiple sclerosis patient.

(*b*) There are not more than four diagnostic clinics, two in New York; one in Boston, Mass., and one in Detroit, Mich. All of these clinics were formed by and are supported by the National Multiple Sclerosis Society, with the exception of the Detroit clinic, which is financed by the Michigan chapter of the society.

Three of these clinics are for research and diagnosis; the fourth is a diagnostic, treatment, and rehabilitation clinic.

V. How much money is being spent for research to find treatments and cures for multiple sclerosis?

About $257,789.54 was available in 1949–50 divided as follows (appendix I):

(*a*) Government funds—

1. The United States Public Health Service made available in 1949–50 approximately $116,726 for three research projects.

2. The passage of the new research institutes bill (S. 2591) establishing a research institute for neurological diseases and blindness will undoubtedly bring additional funds into this field, though no appropriations were made by Congress in 1950 to start the much needed work of the new institute.

(*b*) *Non-Government funds.*—For the period January 1, 1949, through April 30, 1950, the National Multiple Sclerosis Society has spent $141,063.54 for research in multiple sclerosis.

VI. How does this compare with what we spend on other research?

In contrast with the total of about $257,790 being spent for research in the field of multiple sclerosis:

(*a*) The Department of Agriculture spent in 1949 $73,860,691 for research in control and cure of plant and animal diseases. This includes $45,889,811 for the eradication of foot-and-mouth disease alone (1).

(*b*) For applied and developmental research (nonmedical), excluding atomic energy (2):

American industry is spending $450,000,000 a year;
The United States Government spends $625,000,000 a year;
Universities and other agencies are spending $85,000,000 a year.

This means that Americans are spending a total of $1,160,000,000 annually for applied and developmental research, but only about $257,790 for research in multiple sclerosis, a crippling disease affecting scores of thousands of citizens.

VII. How much is the Government spending for the establishment of multiple-sclerosis clinics and services?

1. The Federal Government is doing nothing about establishment of multiple-sclerosis clinics and services at this time.

(*a*) The Veterans' Administration has been unable to put into operation its original plan for the establishment of a multiple-sclerosis clinic in Tomah, Wis., and the outlook for the establishment of such a clinic in the near future is unlikely (3).

(*b*) The Office of Vocational Rehabilitation occasionally undertakes the care of multiple sclerotics, but their feeling is that such patients are a poor investment from the standpoint of vocational rehabilitation.

2. The State and city health departments are doing nothing about establishment of multiple-sclerosis clinics and services.

VIII. How many doctors specialize in multiple sclerosis?

Not known.

IX. How are the known cases of multiple sclerosis apportioned as to age groups?

Multiple sclerosis in the majority of cases is a disease of young adults, stricken during the most productive years of their lives, between the ages of 20 and 45.

However, multiple sclerosis is not uncommon in children under 11 years of age, but the disease more frequently strikes persons between 11 and 18 (4).

X. What are the research leads toward better treatments or cures in the field of multiple sclerosis?

There are many leads in multiple sclerosis, the most important of which are:

1. The study of the ultrastructure of the myelin sheath from the standpoint of biophysics and biochemistry, using polarized light, X-ray refraction and the electron microscope.
2. The study of the mechanism of remissions.
3. Continued clinical investigations with ACTH and cortisone have produced stimulating responses—certainly of a nature which makes it mandatory to continue investigative efforts in this field.
4. Study in virus etiology to determine whether multiple sclerosis is a virus disease or a disease aggravated by virus diseases.
5. Study of allergy.
6. Study of deficiencies in blood circulation of the brain and spinal cord.
7. Study of nutrition in relation to multiple sclerosis.
8. Psychological studies. As many multiple-sclerosis patients have disturbed psychological backgrounds, study in this field might determine whether disturbed psychological background is a contributing cause of the disease or one of the manifestations of the disease.

REFERENCE LIST

(1) Budget of the United States, fiscal year ending June 30, 1950. Letter from Kenneth Stiks, Office of the Director, Executive Office of the President, Bureau of the Budget, Washington, D. C., September 15, 1949.

(2) Science and Public Policy, a Report to the President, by the President's Scientific Research Board, volume I, page 12, August 27, 1947.

(3) Pearce Bailey, M. D., Assistant Chief, Psychiatry and Neurology Division, Department of Medicine and Surgery, Veterans' Administration, Washington, D. C., in a letter dated May 16, 1950.

(4) Dr. H. Houston Merritt, Neurological Institute of New York, report made to the National Multiple Sclerosis Society in March 1949.

All other statements made by Dr. Cornelius H. Traeger, medical director, the National Multiple Sclerosis Society, upon information and belief, by personal interviews in March 1949 and April 1950.

APPENDIX I.—*Funds available for multiple sclerosis research (194–50)*

Government funds (the U. S. Public Health Service has made available the following funds):	
1. For the continuation of the Elvin Kabat allergy research project (which was supported by the National Multiple Sclerosis Society for 2½ years) for a 2-year period, 1950–52	$62, 500. 00
2. The Lewis Thomas research project at Tulane University (which was supported by the National Multiple Sclerosis Society for 2 years) for a 3-year period beginning 1950	44, 226. 00
3. For the purchase of ACTH and cortisone to be used for investigative purposes in multiple sclerosis at the Neurological Institute, New York	10, 000. 00
Total Government funds	116, 726. 00
Non-Government funds: The National Multiple Sclerosis Society for the period Jan. 1, 1949, through Apr. 30, 1950	141, 063. 54
Total	257, 789. 54

WHAT IS CEREBRAL PALSY AND WHAT IS BEING DONE ABOUT IT?

I. What is cerebral palsy (1)?

Cerebral palsy has been defined as a group of conditions which affect the control of the voluntary motor system, and which have their origin in lesions of various parts of the brain.

The condition is present at or shortly after birth, but may also result from a cerebral hemorrhage or as an aftermath of certain diseases incurred at any time in life.

Anyone may contract cerebral palsy without regard for race, economic standing or environment. There are no known preventives, and it is not hereditary.

a. It can be recognized by awkward or involuntary movements, lack of balance, irregular gait, guttural speech, grimacing, drooling, which are some of the manifestations of cerebral palsy.

b. Spastics are only one type of cerebral-palsied. Four other types are the athetoid, ataxia, tremor, and rigidity types.

II. What are the main causes of cerebral palsy (1)?

1. Congenital malformation of the brain.
2. Injury to the motor centers of the brain before, during, or any time after birth.
3. Incompatibility of blood factors.
4. Head injury or severe illnesses such as encephalitis, scarlet fever, whooping cough, measles, and certain severe tropical diseases.
5. Cerebral hemorrhage.

III. What are additional serious aspects of cerebral palsy (1)?

Cerebral palsy is a very real social problem with medical aspects. Most of the parents, when they first learn that their child is so afflicted, sustain a feeling of guilt that one of them may have been at fault through a hereditary defect.

The resulting maladjustment between the parents, their attitude of overprotection or rejection of the handicapped child, and their attitude toward other children and members of the family have caused much additional anguish.

Therefore, it is apparent that the psychological implications of this condition cry out for help with as strong a voice as the medical and educational needs of those affected.

IV. How many people die of cerebral palsy in the United States?

Cerebral palsy is not in and of itself a cause of death, but a condition as described on page 1. It is not a disease. The cerebral-palsied individual has a normal life expectancy (1).

It is, of course, undeniable that a needed medical research program on the causes of cerebral palsy, which are frequently from cerebral hemorrhages, may do much to cut down deaths from cerebral hemorrhages (1). According to the National Office of Vital Statistics, 149,937 people died in the United States in

1949 from vascular lesions affecting the central nervous system, which classifica-
tion includes deaths from cerebral hemorrhage (2).

V. What was the military manpower loss in World War II from neurological disease including cerebral palsy?

Of the 4,828,000 men rejected before induction as of August 1, 1945, by the Army, 235,400, or nearly 5 percent were rejected because of neurological disease (3).

This manpower loss would be sufficient to man 16 Army infantry divisions (World War II strength, 14,477).

VI. How many people are suffering from cerebral palsy in the United States (1)?

Incomplete surveys indicate that 546,000 Americans now alive were born cerebral-palsied, and, in addition, untold hundreds of thousands became affected through various causes in later years of life.

The case load of cerebral-palsied persons is growing steadily. With unrelenting regularity, about 10,000 babies are born with cerebral palsy annually—1 every 53 minutes.

American servicemen become cerebral-palsied as a result of wounds while they fight for freedom.

Adults of all ages acquire the condition through automobile accidents, industrial mishaps, severe illnesses, strokes, and other causes.

VII. What is being done to help cerebral palsied sufferers (1)?

Meager information available indicates that a number of States have instituted cerebral-palsy programs. Some of these are: California, North Carolina, Michigan, New Jersey, in addition to New York. Almost every State has at least one or more organizations of parents of the cerebral-palsied.

This movement of providing facilities for education, coupled with the various therapeutic treatments, is only beginning to gain momentum. It is still one of the many great unmet needs. Coordination and exchange of information, as well as definitive complementary, private, and governmental work is vitally needed.

VIII. How much money has the United Cerebral Palsy Associations raised for education and service to cerebral-palsied persons and for lay and professional education in this field (1)?

Since its organization in 1949, the United Cerebral Palsy Associations raised $1,022,000.

IX. How much money is available for research to find new treatments and cures for cerebral palsy (1)?

Approximately $267,265 is available for research in this field in 1950.

a. *Government funds.*—Although there is no information that any money is presently being spent for research in cerebral palsy by the Federal Government, efforts are now being made to obtain a congressional appropriation for research by the National Neurological and Blindness Institute authorized by the recently enacted Public Law No. 692.

b. *Non-Government funds.*—Voluntary agencies have allocated approximately $267,265 for research in this field, as listed below:

United Cerebral Palsy Associations, Inc	$55,80
United Cerebral Palsy Association of Illinois	10,00
Cerebral Palsy Association of Connecticut	6,00
Cerebral Palsy Society of New York City	17,05
Association for the Aid of Crippled Children	25,00
State of New York, maintenance of Edith Hartwell Clinic, Leroy, N. Y.	[1] 95,00
National Foundation for Infantile Paralysis	[1] 58,40

[1] The item of $95,000 for maintenance of the Edith Hartwell Clinic is estimated. Actual amount will not be known until the end of the fiscal year. This item and the item of $58,400 for the National Foundation for Infantile Paralysis were reported by Dr. Plato Schwartz, Strong Memorial Hospital, Rochester, N. Y.

X. How does this compare with what we spend on other research?

In contrast to the $267,265 being spent for research in cerebral palsy, the following is being expended in research in other fields:

a. The National Foundation for Infantile Paralysis allotted for research in the field of infantile paralysis in 1949, $1,734,065 (4).

b. Congress appropriated in 1950 for the Department of Agriculture's marketing research programs, $18,380,000 (5).

XI. What are some of the problems in cerebral palsy which require research (1)?

1. Use of drugs.
2. Relationship of RH factor in the blood.
3. Development of surgical methods of treatment.
4. Special psychological testing methods.
5. Relationship of right- and left-handedness to the disabilities of cerebral palsy.
6. Investigation of brain pathology in cerebral palsy.
7. Study of prenatal period.
8. Obstetrical problems in anesthesia, instruments, anoxia, and the mechanics of labor.
9. Early postnatal period.
10. Classification of types of cerebral palsy.
11. Research in treatment.
12. Reeducation of undamaged parts of the brain to take over the functions of the damaged part.
13. Special methods of physiotherapy.
14. Special methods of occupational therapy.
15. Special methods of speech therapy.
16. Special methods of functional therapy.
17. Treatment of the child as a whole.
18. Research in apparatus and orthopedic equipment.
19. Research in visual difficulties.
20. Research in hearing testing.
21. Research in convulsive-seizure control.
22. Research in methods with regard to psychological factors in convulsive seizures.
23. Research in connection with allergies.
24. Research in nutrition, fluid balance.
25. Research in useful methods of education.
26. Research in differences in educability of the mentally normal cerebral-palsied child from the otherwise normal child.
27. Research in the psychological problems of the cerebral-palsied child and the problems of the adult cerebral palsied.
28. Research in psychological effects of cerebral palsy on the families.
29. Research into methods of training personnel.
30. Research into types of centers of treatment.
31. Research into neurological surgery on the brain.
32. Research into orthopedic surgery on the extremities.
33. Research in revascularization operation.
34. Research in records and measurements of improvement.

XII. Constructive steps to be taken (1)

1. Special training of medical personnel (doctors, nurses, and therapists).
2. Special training of educational personnel (teachers, psychologists, and social workers).
3. New facilities:
   More treatment centers must be established.
   More clinic schools must be set up and equipped.
   More rehabilitation schools must be established.
   More facilities for adults for vocational guidance, training, placement, and social opportunity.
   More residence rehabilitation schools must be established.
4. It is essential that a Federal appropriation be made to provide funds to establish a Nation-wide research program in neurological diseases, including cerebral palsy, under the newly established National Institute for Neurological Diseases and Blindness.
5. Establishment of centers which coordinate orthopedic diagnosis, and provide integrated programs of diagnosis, treatment, education, psychological testing, research, and training of personnel.

REFERENCE LIST

(1) Information obtained from the United Cerebral Palsy Associations, Inc., 50 West 57th Street, New York 19, N. Y.
(2) National Office of Vital Statistics—this is a provisional figure—final 1949 mortality data not yet available.

(3) Selective Service System, National Headquarters, Chart Estimated Principal Causes for Rejection of Registrants 18–37 Years of Age in Class IV–F and Classes with F Designation, August 1, 1945.
(4) National Foundation for Infantile Paralysis, figures for 1949.
(5) Letter dated September 13, 1950, from Joseph C. Wheeler, Acting Director of Finance, United States Department of Agriculture, Washington, D. C.

WHAT ARE WE DOING ABOUT BLINDNESS AND EYE DISEASES?

I. How many people are suffering from blindness and eye diseases in the United States?

1. It is estimated that 600,000 people are severely visually handicapped (1). Of this number, 260,000, or the numerical equivalent of the entire population of Miami, Fla., are totally blind (2).
a. In addition, it is estimated that 500,000 people are blind in one eye (3).
2. About 22,000 persons in this country lose their sight annually (3).
3. An estimated 70 million people have eye defects, and need glasses (4).
a. An estimated 6,500,000 children in American schools require eye care, and a large number of these children have to wear glasses (5).
4. An estimated 800,000 persons have glaucoma without knowing it and may go blind at any time (6).

II. What was the military manpower loss in World War II from blindness and eye diseases?

1. Of the 4,828,000 men rejected before induction as of August 1, 1945, by the Army, 234,300, or nearly 5 percent, were rejected because of visual handicaps (7).
a. This manpower loss would be sufficient to man 16 Army infantry divisions (World War II division strength, 14,477).

III. What is being done to detect blindness and eye diseases in the United States?

1. According to the American Medical Association, there are only 126 non-Government hospitals and 33 Government hospitals (Army, Navy, Marine, and Veterans' Administration) with approved eye clinics (8).
a. This is in contrast with the fact that there are 3,069 counties in the United States, and a large majority of counties should have some type of eye clinics.
2. Less than $500,000 was available in 1950 for organized prevention services to enable people to keep their sight and thus reduce the number of unnecessarily blind (2).

IV. How many doctors specialize in blindness and eye diseases?

1. There are only 2,600 oculists certified for practice by the American Board of Ophthalmology (9). In addition, it is estimated that there are about 4,000 doctors of medicine who treat the eyes and do some eye surgery (10).

V. How much money is available for research in blindness and eye diseases in the United States?

1. According to the latest estimate available, made in 1948, approximately $922,959 was being spent for research in blindness and eye diseases as follows (11):
a. *Government funds.*—1. Only about $367,671 was distributed in 1948 by Federal agencies. It should be noted that not all of this money is utilized for research which deals directly with the causes, treatment, and prevention of blindness.
b. *Non-Government funds.*—1. It is estimated that there is approximately only $555,288 being spent annually for medical research in blindness and eye diseases by voluntary agencies, medical schools, and eye institutes, and that approximately $16,000 of this amount was spent on statistical research (11).
c. In contrast, in 1950 we spent over $125,000,000 in tax and private funds for the inadequate care and services to people already blind (2).

VI. How does this compare with what we spend on other things?

1. In contrast with the estimated maximum total of $922,959 which is available from public and private sources for research in blindness and eye diseases (11):
a. The people of the United States spent approximately (12):
(1) $20,714,000 for sunglasses and goggles in 1949.
(2) $8,356,000 for bath salts, tablets, and oils.
(3) $6,357,000 for dog and pet medicaments.
(4) $3,073,000 for eye lotions.

VII. How much is spent from public funds alone to support people who are blind?

1. For the fiscal year 1951, the total amount of Federal, State, and local expenditures for aid to the blind is estimated at $45,216,000, or 6.8 percent more than for 1950 (13).

a. The average monthly 1951 payment is estimated to be $48 for 78,500 recipients, as compared with $47.25 for 73,500 recipients in 1950 (13).

2. This is in contrast with an estimated maximum total of $922,959 which is available from public and private sources for research in blindness and eye diseases (11).

VIII. What approaches are currently available in medical research which might be expected to reduce the number of persons who may become blind?

1. *Fundamental research.*—a. These include application of recent advances made in biochemistry, physiology, heredity, nutrition, and infections including immunology and epidemiology, to determine the mechanism of the underlying disorder which is associated with diseases of the eye leading to blindness.

2. *Clinical research.*—a. Direct study of the patient to determine the underlying cause of blinding diseases, the most common of which are cataract, glaucoma, uveitis, retinitis pigmentosa, and retrolental fibroplasia.

b. ACTH and Cortisone are at present showing therapeutic results in about 25 percent of the blinding eye diseases, such as iritis, choroiditis and uveitis. However, these substances need a great deal of research, and large sums of money are needed for both the purchase of the material and clinical research on the patients.

IX. What are the main causes of blindness and eye diseases?

1. About 22 percent of blindness is caused by infectious diseases, affecting all ages.
2. Cataracts about 19 percent, mostly affecting people over 60 years of age.
3. Optic atrophy about 16 percent.
4. Glaucoma 12 percent, striking people over 35.
5. About 10 percent injury.
6. Uveitis (inflammation of the layers of the eye) 7 percent.
7. General diseases, 6 percen .
8. Other congenital or hereditary diseases, 6 percent.
9. Myopia (malignant) about 3 percent—all ages.
10. Retinal degeneration about 3 percent—all ages.
11. Structural anomalies about 3 percent—all ages.
12. Poisoning and neoplasms 2 percent (11).

REFERENCE LIST

(As to references (1), (3), (4), and (5), the information given is based on these references, but adjusted for increase in population and brought up to date by the National Society for the Prevention of Blindness, 1790 Broadway, New York, N. Y.)

(1) Ralph G. Hurlin, chairman of the committee on statistics of the blind—Estimates of Blindness in the United States, Social Security Bulletin, March 1945, Volume 8, No. 3, page 18.

(2) Journal of the American Medical Association, January 6, 1951, Volume 145, No. 1, page 26—The Battle Against Blindness, by Walter B. Lancaster, M. D. and Franklin M. Foote, M. D.

(3) Rollo H. Britten—Blindness, as Recorded in the National Health Survey—Amount, Causes, and Relation to Certain Social Factors. Public Health Reports, reprint No. 2332, Volume 56, No. 46, November 14, 1941, pages 2191–2215.

(4) Do You Know These Facts About Vision?—booklet published by American Optometric Association, Pittsburgh, Pa., 1947 (figure based on 1940 population figures).

(5) Dr. Franklin M. Foote, executive director, National Society for the Prevention of Blindness—estimate made from survey made by correspondence with State commissioners of education in September and October 1948.

(6) Estimate based on survey made by Philadelphia Committee for the Prevention of Blindness (local chapter of the National Society for the Prevention of Blindness) over a period of about 2 years and reported by Dr. Brav at a meeting in New York on March 18, 1948. The study was made of 4,000 people over 35 years of age and the percentage of this group, found to have glaucoma without knowing it, was used as the basis for the percentage of all persons over 35 years in the United States who probably have glaucoma without knowing it and may go blind at any time.

(7) Selective Service System, National Headquarters, chart Estimated Principal Causes for Rejection of Registrants 18–37 Years of Age in Class IV–F and Classes with F Designation, August 1, 1945.

(8) Journal of the American Medical Association, April 15, 1950, Volume 142, No. 15, pages 1180–1182.

(9) American Board of Ophthalmology, letter dated May 15, 1950.

(10) Red Book of Eye, Ear, Nose, and Throat Specialists, 1949.

(11) Dr. Franklin M. Foote, National Society for the Prevention of Blindness, personal interview January 23, 1951.

Distribution of Government funds for research in blindness and eye diseases (1948)

Office of Naval Research, Washington, D. C		$227, 331
Contract research in human vision	$28, 000	
Anatomy, physiology and neuromuscular functions of vision	51, 500	
Physiological optics	40, 230	
Perceptual functions of vision	107, 401	
Other rehabilitation of vision	200	
Naval Medical Research Laboratory, New London, Conn		30, 000
United States Army		40, 000
National Institutes of Health		70, 340
Total		367, 671

Additional research work on vision is being done by the Army Air Forces and by the Veterans' Administration on blindness and eye diseases, but the actual figures are not available.

(12) Drug Topics, Volume 94, No. 20, September 25, 1950, pages 2, 4, and 6. Published by Topics Publishing Co., New York, N. Y.

(13) United States Budget for fiscal year ending June 30, 1951, page 258.

NEUROLOGICAL DISEASES

Senator CHAVES. Dr. Merritt? You may proceed, sir.

Dr. MERRITT. I am Dr. Houston Merritt, professor of neurology at Columbia University, director of the Neurological Service of the Neurological Institute at the Presbyterian Hospital in New York. I am on the executive committee of the research council of the United Cerebral Palsy Association and the medical advisory board of the Multiple Sclerosis Society, the Association for the Control of Epilepsy, and the Association for the Control of Muscular Dystrophy; Secretary of the American Neurological Association, chairman of the committee on neurology of the National Research Council, and member of the advisory council of the National Instituite of Neurological Diseases and Blindness of the United States Public Health Service.

I am sorry I put so many things in here, but I wanted to show that I have a very broad interest in this problem. I have spent a great many years in teaching neurology and in directing research and in studying the over-all needs of the country in these fields.

Now, I do not know whether you have ever heard anything about the neurological diseases or not, but you will hear a great deal more from some of the other members here today, and I will not go into the individual diseases. But I would like to introduce this budget and some factual information concerning several of the diseases that are of special importance, particularly cerebral palsy, multiple sclerosis, and the refractory diseases in regard to blindness.

The number of our citizens affected with various diseases of the nervous system is very great, and many of these diseases affect our children and affect our young men in the prime of their life. The toll to the Nation insofar as manpower for industry and for the Army is

concerned has been great in the past and it will continue to be great in the future.

I would like to first stress some of the needs of the various organizations for more trained personnel in the field of diseases of the nervous system.

At the last meeting of the National Research Council, we had representatives from the Army, Navy, and Veterans' Administration, come before us and tell us of the problems that they had to deal with with regard to neurological diseases and how well they were able to handle them.

The problem is great in the Army and the Navy, and they have inadequate personnel. The reason for that is that there have not been enough doctors trained by the medical schools and the hospitals. Their needs are small compared to the needs of the Veterans' Administration, because so many diseases of the nervous system, and particularly the trauma that happens to the nervous system, the wounds that affect the nerves and that affect the spinal cord, make these boys permanent charges of the Veterans' Administration for years, and oftentimes for life, and the Veterans' Administration is very short of personnel to take care of these patients.

The medical schools are indeed short of personnel to teach doctors and train young doctors in the care of patients with nervous diseases.

NEED FOR RESEARCH

Then I would like to talk about the need for research, because only through research are we going to get more effective treatments that will relieve the suffering of these children with cerebral palsy, the young adults with multiple sclerosis, and the children and adults with the convulsive disorders.

The yield from the small amount of money put into research is magnified when it is applied to the treatment of the patients, especially if some new treatment has been discovered or if by some method we have discovered the cause and can prevent the disease.

The medical schools are greatly in need of research workers, and the United States Public Health Service itself, which is now establishing a big research hospital at Bethesda, is in need of research personnel.

Research, of course, in no good unless it has a practical application, and it only can be applied in the clinics in our hospitals and in various treatment centers. Our hospitals are woefully understaffed with regard to doctors who are trained in the treatment of such diseases as epilepsy, cerebral palsy, multiple sclerosis, muscular dystrophy, and in the treatment of the wounds of the nerves and the nervous system, and the infections.

NEED FOR CLINICS

The need for clinics is great. There are only a few clinics throughout the country that are capable of handling these diseases, particularly cerebral palsy, multiple sclerosis, and epilepsy. These things are gradually growing and spreading, but the need is still great, and we have clearly only touched the surface.

None of these diseases are absolutely hopeless. Much can be done for many of them, and in some of them, epilepsy, for instance, the patient is perfectly normal except for the fact that he has seizures.

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None of these diseases are absolutely hopeless. Much can be done for many of them, and in some of them, epilepsy, for instance, the patient is perfectly normal except for the fact that he has seizures.

If you can prevent him from having the seizures, he can take his normal place in life, and now even the Armed Forces have, on the advice of the National Research Council, agreed to take certain patients that have convulsive seizures into the Army, because we now have better medical methods of treating them.

But we have not by any means conquered it, and we have a long way to go to find the cause and the eradication. Our treatment at present is only palliative.

Now, what applies to epilepsy also applies to all these other diseases. As for multiple sclerosis, we know that multiple sclerosis, which hits young men in their prime, usually in their twenties or thirties, can get well of itself. It does not do that very often, but the fact that it can get well of itself means that we ought to be able to find out why it gets well and make all the rest get well.

As to muscular dystrophy, it must be a metabolic disease, and we ought to find out what it is and cure it. We ought to find out why children are born with cerebral palsy, and prevent them from being born that way, with all of the suffering that is caused.

You may have seen in the paper yesterday about the child with cerebral palsy that the mother deserted on the doorstep. Did you see that little notice?

Senator CHAVEZ. Yes; I did.

Dr. MERRITT. That is just a crying example of the need in this field.

We appreciate greatly your giving us this hearing.

Senator CHAVEZ. Thank you, sir. Thank you very much.

Mr. Van Meter?

RESEARCH ON CEREBRAL PALSY

Mr. VAN METER. Mr. Chairman, it is a great honor for a layman to be permitted to appear in this Senate hearing, consisting mostly of doctors. You can see that Dr. Merritt wears many hats. One of those was that of director of our United Cerebral Palsy Research Institute in New York City. I may say that my name is Karl Van Meter, and I am executive director of the United Cerebral Palsy Associations, 50 West Fifty-seventh Street, New York City. We are the youngest and fastest growing of the Nation's health agencies.

What we have to say here today in support of the appropriation of Government funds to encourage research in cerebral palsy concerns more than a million Americans. These include more than 500,000 persons who were born with cerebral palsy, and members of their immediate families.

To us the entire question of cerebral palsy is one of the most important and immediate subjects for discussion, of course. The recent establishment of the National Neurological Institute of the United States Public Health Service was a major step forward in the fight against cerebral palsy, but the establishment of an agency is only the first step. For the Institute to function and benefit cerebral palsy and research into cerebral palsy, operating funds must be appropriated.

Without these funds, it is obvious that the Institute cannot achieve the objectives foreseen by Congress when Public Law 692 was enacted.

Cerebral palsy is a major national health problem. However, in its present state of neglect, it is also an economic burden to the Nation and a ceaseless and needless waste of precious manpower in this period of national emergency.

CEREBRAL PALSY PRESENTLY INCURABLE

Today cerebral palsy is an incurable condition. It indiscriminately affects persons of all ages, of all ethnic groups, social and environmental backgrounds. Although many of the most tragic cases of cerebral palsy occur at birth the condition is not hereditary.

Cerebral palsy is caused by various types of injury to the brain. It is characterized by loss of muscular control, resulting in awkward and involuntary movements, in speech difficulties, lack of balance, halting gait, and occasionally facial distortions. These are the physical aspects of cerebral palsy as it affects the sufferer himself.

There is also a very real problem in the field of mental health for the person affected by cerebral palsy and his family. Although there is no hereditary taint attached to cerebral palsy, the parents of a child so affected suffer unimaginable anguish. It is almost impossible for a parent of a cerebral-palsied child not to feel that somehow he or she in some way was responsible. The resulting feeling of guilt may lead to an oversolicitous attitude toward the child and a general maladjustment to the rest of the family and of the family toward the rest of the community.

The case books of social workers throughout the country tell many tragic stories of serious domestic difficulty, such as the one just alluded to, and completely broken homes, where one of the children in the family suffers from cerebral palsy.

NUMBER OF BABIES BORN AFFLICTED WITH CEREBRAL PALSY

The figure of 500,000 is given as the number of persons in this country affected by cerebral palsy. This figure must be qualified. It represents only persons now living who were born with cerebral palsy. Approximately 10,000 babies are born each year with this condition. This is an almost constant figure. To it, however, must be added the very large number, thousands and thousands of children and adults, in the United States, who suffer from cerebral palsy not contracted at birth. This is the result of automobile accidents, industrial accidents, and the aftereffects of many childhood diseases, including these fevers mentioned before.

AFTER-ACQUIRED CEREBRAL PALSY

There are no statistics available as to the exact number of these after-birth acquired cases. But they also include thousands of war veterans and others who have suffered head injuries.

Also included are an untold number of elderly and middle-aged persons whose palsied condition is the result of cerebral hemorrhage, popularly called stroke or paralysis, such as that suffered by President Wilson and also President Roosevelt.

LACK OF RESEARCH IN CEREBRAL PALSY

We ask you now to consider the two positive functional methods of approach to cerebral palsy, research and care. In the past, the amount of medical research in this condition has been woefully inadequate; yet even this surface-scratching exploration has shown us that there are many areas of research which, if properly developed,

may lead to important discoveries. For example, there are drugs which may help alleviate some of the effects of cerebral palsy. Surgical techniques have been devised which merit further investigation. A thorough study of brain pathology in relation to cerebral palsy is a necessary research project which would involve many investigators. These are only a few of the avenues of exploration which offer great promise and hope to the cerebral palsied. But whatever the nature of the research undertaken, one inescapable conclusion is clear: it costs money and very little money at present is available. Our agency is in its second year asking for funds from the public, and we are going to contribute our share to the $1,000,000 presently indicated as necessary for research in cerebral palsy.

In 1949, private agencies interested in cerebral palsy were able to make available only $176,000 for research. Most of this money was raised in small campaigns and donated by the ever generous American public. The families of the cerebral palsied children have given as much for research as they themselves could afford, and they have worked untiringly in raising funds and in public education as to the condition. However, despite the laudable efforts made by private agencies, they alone cannot provide the funds necessary for an effective research attack on cerebral palsy. The money required for it is beyond the scope of private agencies. There must be other hope if the cerebral palsied of our country are to benefit.

NEED FOR FUNDS

This research must have Government support. We beg you to bear in mind that until the Congress of the United States appropriates adequate funds for research, cerebral palsy will continue to strike 10,000 American families each year as a terrible curse visited upon innocent babies.

We ask that the Neurological Institute of the Public Health Service be given adequate funds to fight cerebral palsy. As we see it, the Institute should undertake a three-point program against this dread condition.

Point 1. There is a desperate shortage of medical and clinical personnel of all types. That can be overcome only by making training possible.

Point 2. The Institute should encourage vital research with proper financial support.

Point 3. The Institute should expand facilities for caring for those who are affected by cerebral palsy. There is an immediate need for the establishment and maintenance of clinic schools in every large community in the United States.

That is all, sir.

Senator CHAVEZ. Is that your statement?

Mr. VAN METER. Yes, sir.

Senator CHAVEZ. Thank you, sir.

Mr. Locke?

MULTIPLE SCLEROSIS

Mr. LOCKE. My name is Edward A. Locke, Jr. I am treasurer of the National Multiple Sclerosis Society. My interest in this disease derives from the fact that my brother developed it a good many

years ago. And as Dr. Merritt pointed out, it strikes people generally in the prime of life, in their twenties or thirties. It hit him when he was in his early thirties.

Senator CHAVEZ. He had palsy?

Mr. LOCKE. No, sir, multiple sclerosis, which is a disease of the central nervous system. There is a sheath on the outside of your nerves called the myelin sheath. When something happens, and that sheath breaks down, it is replaced by scar tissue, which usually cripples you up and oftentimes leads to death in a period of years.

1951 APPROPRIATION

Senator CHAVEZ. I believe, if you will let me interrupt you there, the first time the matter was discussed before this committee was last year, when Senator Tobey, who had had a family experience such as yours, appeared before the committee. And while the committee did not appropriate any money direct, out of the total we had earmarked $250,000 for that.

Mr. LOCKE. It went to the United States Public Health Service, I believe, and they have been most helpful and cooperative with us.

Senator CHAVEZ. You may proceed, sir.

Mr. LOCKE. I submitted a formal statement about 2 months ago before the House Appropriations Committee considering this matter, and I don't want to take up your time by repeating that which is available to you anyway.

Senator CHAVEZ. Thank you, sir.

Mr. LOCKE. But I would just like to emphasize one or two points.

PRIVATE FUNDS

The first one is that we are quite a young organization. We have been going approximately 5 years. We have raised a little over $500,000; I think a larger proportion of which has gone to research than in the case of any other society of this sort. It is a difficult disease to publicize. The word itself is difficult to handle. It hasn't got some of the popular appeal that things like cerebral palsy have, for example, which attack little children.

Senator CHAVEZ. And palsy is more of a common name to the average family.

Mr. LOCKE. Much better known.

I had never heard of this name until my brother acquired the disease, in spite of the fact that my father is a doctor.

But it has been remarkable, the response we have gotten, and the fact that although it perhaps sounds very small, we have been able to raise a half a million dollars over this period.

Nonetheless, in relation to what we would like to do, particularly in the research field, it amounts to very, very little. And I would like to say whatever I can in behalf of at least the appropriation which the House committee has passed, and if at all possible something of an increase over that, in line with the citizens' budget.

Senator CHAVEZ. Thank you. We will also look into your testimony before the House, your general statement, Mr. Locke.

Mr. LOCKE. The only other point I have, Mr. Chairman, is the bearing this has on the manpower situation, which is so important now. Striking people as it does, in the prime of life, you can see that

there is a very obvious relationship, if we can learn something of the secrets of this disease, and thus reduce the deduction from our available manpower, in this big effort that we are in right now.

Senator CHAVEZ. It also goes even further than that. That affects the one directly touched by the disease. But here you are today leaving your work just on account of the disease.

Mr. LOCKE. That is right.

Senator CHAVEZ. You cannot tell as to the ones directly affected. I can see how a family would be affected by it. You probably cannot get your mind properly on your work because of a dear one being affected. I will get emotional. I had better quit.

Thank you, Mr. Locke.

Mr. LOCKE. Thank you, sir.

Senator CHAVEZ. Dr. Gordon?

EYE DISEASES AND BLINDNESS

Dr. GORDON. My name is Dan M. Gordon, assistant professor of clinical ophthalmology at Cornell University, chairman of the Medical Board of the National Council To Combat Blindness, member of the National Advisory Council of the Neurological Diseases and Blindness Institute.

I have the privilege of being senior author of the first paper ever given on ACTH and cortisone in the treatment of eye diseases.

I seem to be the next to the last man on this program. By the time you have gotten to me, you probably think that a great deal of the world is infirm or disabled, which is true. I am going to add blindness to that list. You will possibly wonder why you don't see more of them on the street. I will give one little example. This past Monday I operated on both eyes of a little girl for an acute blinding eye disease. This girl was born partially deaf and about three-quarters blind and had two or three other infirmities. The child has a very high intelligence quotient. In spite of the fact that she can't read, she had led her class, such as it is, up to the age of 10. But because of the fact that this child cannot see or hear well and has peculiar skin pigmentation, the mother has always taken her down back alleys. She has never placed with another child. You mentioned Senator Tobey's daughter. I wanted to bring that up.

EMPHASIS PRESENTLY ON REHABILITATION

I am going to skip all of the preamble and point out a few of the problems and why we want the money we are asking for. All of the emphasis in the field of blindness has been in rehabilitation. I breed dogs, and so I know something about that. But I am not here to talk about that problem. I think the important thing is to prevent people from reaching that stage. And we have found, in the last few years in working with these drugs and other drugs, many of which are not released yet, that many people thought hopelessly blind can be saved. I had the thrill within the last month of treating two people who were each blind in one eye, conditions which I formerly thought hopeless. In each case I was able to restore about

60 percent of the vision. I do not know whether I can keep them there. I think if we can have the money for research, we can develop better things which will keep them there. But while they are under treatment, they have the return of 60 percent of their vision. That means something. It means a great deal to the Armed Forces.

LACK OF RESEARCH FUNDS

Because of the fact that we have lacked research funds—and Mr. Ulmer will tell you more about that—we know practically nothing about the causes of the major eye diseases. And I won't bother listing those.

I might point out that one out of six or seven of every group of premature children born weighing 3 pounds or less in this country today is doomed to blindness, and we don't know why. It would take a lot of money to find out, a lot more money to find out what to do with them. But I am sure with some of the work done in this country today, we can discover why, and we can do something about preventing a certain percentage of those kids from going blind.

PRENATAL INVESTIGATIONS CONTEMPLATED

Senator CHAVEZ. Does the research contemplate prenatal investigations?

Dr. GORDON. Every phase of the subject.

I think that you undoubtedly realize by this time that you can't have rheumatism without possibly having an eye disease or a heart disease or something else. All of these things are tied in.

I happen to have been the first doctor in this country to treat a patient with the same disease that the King of England has. I was not treating his legs. I was/treating his eyes. But his legs got better during the treatment. I mean, these things are tied in.

EFFECT OF DIABETES ON EYES

For example, in this country there are 1½ million people with diabetes, every one of whom is potentially a candidate for a crippling eye disease.

Senator CHAVEZ. Let me ask you a question, interrupting there.

Dr. GORDON. Yes, sir.

CONTRIBUTION OF ONE DISEASE TO ANOTHER

Senator CHAVEZ. As to the matter that Mr. Locke discussed, would one ailment contribute to the other, and is there a relationship?

Dr. GORDON. You could not have asked a better question.

The first sign of the ailment he discussed is often blindness in one eye occurring 5 to 15 years before the paralysis.

Senator CHAVEZ. What about shocks?

Dr. GORDON. Oh, you can get blind by shocks, too.

Senator CHAVEZ. Is there any relationship to polio?

Dr. GORDON. That can cause a blood clot in the eye or something of that sort.

Senator CHAVEZ. But I am talking about multiple sclerosis.

USE OF ACTH AND CORTISONE

Dr. GORDON. I can't tell you of the cause of that. But I can tell you that one of the first signs is loss of vision. And we, today, with ACTH or cortisone, can bring back the vision. We have done that in every case where we have applied it. You can't treat one of these things without treating the other.

Senator CHAVEZ. That is a general thing, which would apply to others as well.

Dr. GORDON. That is right, Senator. With the introduction of ACTH and cortisone, we have for the first time in medicine found that the body is all one, and all these parts belong together. All the specialists in the various fields have found that they have to work together, that the body is a unit; that it is not just two hands, two eyes, two legs, and so on.

RESEARCH EQUIPMENT NEEDED

Because of the fact that there is lack of funds, there is a marked scarcity of the basic equipment which we need in doing research. I will give you two examples. There is a camera for taking pictures of the inside of the eye. There are only 77 prewar cameras of this type in this country, most of which do not work. There is a new one that has just been invented which costs $1,900. There are 160 eye hospitals or eye departments in this country. Less than 50 of these institutions have such an eye camera. It would cost probably a quarter of a million dollars to give them these eye cameras alone. I can go on down the line with other equipment, which I will not burden you with, but all of it is very vitally needed. We have practically no set-up for the training of research men, to pick out the promising young men who go through our eye departments and, as far as that is concerned, through the neurology departments and the others, to pick out these men and give them advanced training. There is no such set-up in this country, with the exception of a few private institutions which will take one, two, or three men. Obviously, we have to take a large number of them and make really good research men out of them.

There are certain "must" projects in ophthalmology, and the most pertinent of these are in fields which would reduce our blindness rate and return to productive life many who would otherwise go blind. I have listed some of these needed projects in the paper.

Senator CHAVEZ. You will want this paper inserted as a whole?

Dr. GORDON. Yes.

RESEARCH LABORATORIES NEEDED

It is doubtful if there are six really well equipped eye research laboratories in the United States. That is a very sad commentary on the state of medical care in this country; and ours is the best in the world. It could be a lot better if we had this system.

There is some evidence that existing knowledge in the field of electronics might ultimately be applicable to the field of blindness. We feel that certain radar and radio equipment which can eventually be made will cause the blind to see. This will cost more money, and I haven't even listed the sum financially in my figures.

NEED FOR FELLOWSHIP TRAINING

We want to provide for training fellowships, and we want to provide for rapid dissemination of recent advances in the field.

I was down at Wilmington, Del., last week judging a dog show. My host had a very red eye. He had been going to a supposedly good man in Philadelphia for about 6 months. The eye is now blind. His man knew absolutely nothing about the use of cortisone. He said until he knew more about it he wouldn't try it. Yet cortisone would have saved my host's eyesight. It is amazing that even in the large institutions they know very little about the newer advances in medicine. And when you get out into the so-called sticks, out into the suburbs and the rural areas, they know practically nothing. It is very important to take that information to them months and months before they will get it in the medical journals. The money is needed for this.

We have to set aside money for the equipment, which I mentioned. We have to set up disease detection centers, such as the gentleman ahead of me discussed. And following up the initial successes obtained in inflammatory diseases with ACTH and cortisone, I think that we can prevent at least 25 percent of blindness with the use of these agents and their successors.

I know that we can cut down probably at least 25 percent of the blinding eye diseases occurring in the military. One of the greatest causes of eye disease during the last war in the South Pacific was corneal ulcers, for which there was no specific treatment. Today, with cortisone and ACTH, we can cure practically all of these.

The same is true of a number of other diseases.

Thank you.

Senator CHAVEZ. Thank you, sir.

(The prepared statement is as follows:)

STATEMENT SUBMITTED BY DAN M. GORDON, M. D.

(Qualifications: Graduate of the School of Medicine, University of Michigan, 1932, diplomate of the American Board of Ophthalmology, fellow of the American College of Surgeons, fellow of the American Academy of Ophthalmology and Otolaryngology, fellow of Pan-American Ophthalmological Society, assistant professor of clinical surgery (ophthalmology) Cornell University Medical College, assistant attending staff, New York Hospital, chairman of the medical board of the National Council to Combat Blindness, member of the American Medical Association and New York State, and New York County Medical Societies, fellow of the American Medical Association, a pioneer in the introduction of ACTH and cortisone into ophthalmology, authority on night-blinding diseases, member of the National Advisory Council of the National Institute of Neurological Diseases and Blindness, author of various ophthalmological articles.)

I am here as an eye man who wants to give you some small insight into the blindness picture and the need for funds with which to institute and perpetuate a concrete attack upon the subject of blindness. This is a subject about which I have become acutely aware in my dual capacities as a research worker and as a member of two boards which process applications for research problems in ophthalmology.

Because of the wide extent of the field of blindness, and its problems, I shall devote no time whatsoever to the subject of routine care and rehabilitation of those presently blind.

The Federal, State, and county governments spent, during the fiscal year of 1950, $125,000,000 on welfare aid to the blind, as contrasted with the $70,340,000, spent by the Government on eye research, up to that period. Using the pittance of $60 per month as the contribution of governmental agencies toward the blind, for care, the 22,000 new blind each year add approximately $1,584,000 to the tax

burden annually, without considering the fact that that burden accumulates with each successive year.

As a research worker I am accustomed to dealing with facts, and not words. Hence, I shall state succinctly only a few of the problems which confront this Congress, the ophthalmologists, and the American public.

1. The fact is that practically all of the emphasis in the field of blindness has been placed upon rehabilitation rather than research into the causes and cures of blinding diseases.

2. As a result of lack of research funds with consequent lack of research, practically nothing is known about the causes (as well as the prevention) of most of the major eye diseases including glaucoma, cataracts, retrolental fibroplasia, uveitis, retinitis pigmentosa, the diabetic retinopathys, etc. For example, there are approximately 1½ million people in this country suffering from diabetes, every one of whom is a potential candidate for a crippling eye disease. As a result of the discovery of insulin the young diabetic, who would have died prior to 1922, is now being kept alive—in order that he may later go blind.

3. As a result of lack of funds, there is a marked scarcity of much of the basic equipment as well as of men properly trained in the basic sciences. Both of these are absolutely essential to any well-planned attack upon the basic problem of eye research. For example, any good research program involving diseases of the inner eye such as diabetes, high blood pressure, etc., demands the use of a fundus camera for the making of photographic records of the inside of the eye (retina and optic nerve). There are approximately 77 ancient prewar German cameras of that type in this country. Many of these are no longer functioning or are in the hands of private individuals. Recently, a new fundus camera has been designed, costing approximately $1,900. There are only 166 hospitals in this country which train physicians in the field of ophthalmology. Well over 100 of these lack fundus cameras; at least $190,000 would be necessary to fill this need. Practically all of these institutions lack equipment for the study of dark adaptation. These instruments cost approximately $1,500 each. Hence, it would cost $187,500 simply to furnish this equipment to 125 eye departments. Assuming that a single technician could be trained to operate both of these instruments at a salary of $50 a week, additional cost of $311,500 would be necessary to insure adequate operation of this vital equipment.

4. At least 150 fellowships for advanced training in clinical ophthalmology and the basic sciences should be available each year. This would mean about $750,000 for the first year, and $1,125,000 per year thereafter, since most of these would be on at least a 2-year basis.

5. Certain projects are "must projects" in ophthalmology—the most pertinent of these are in the fields which would reduce our blindness rate with consequent return to productive life of many who would otherwise go blind—and with consequent savings in welfare aid. About 25 percent of blindness is due to inflammatory diseases. Proper exploration of existing new treatments and dissemination of this knowledge would cut into this group considerably. This is one most important contribution we ophthalmologists can make to the war effort, as these are leading agents in causing blindness among soldiers, without trauma.

6. The lack of trained research workers and the facilities required for intense investigation into the fundamental causes and treatment of blinding diseases is a blot on our civilization. It is doubtful that there are six well-equipped eye research laboratories in the United States of America, and those existent lack men, dollars, and equipment.

7. There is some evidence that existing knowledge in the field of electronics might ultimately be applicable to the field of blindness, and that eventually it might be possible to produce equipment which would enable the blind to get around without any other help. It is entirely possible that the future may even see a device which might transmit rays of light to the visual cortex of the brain in a blind individual. While research of this type might cost billions of dollars it would more than pay for itself in the rehabilitation of blind civilians and soldiers.

I could enumerate many other important "musts" in the field of blindness. However, I shall devote my time to the outlining of the work which the institute should initiate in its first year:

1. Provide 25 training fellowships at a minimum cost of $125,000.

2. Provide for rapid dissemination of recent advances in the field of ophthalmology through educational means; especially by sending experts to those areas which are not supplied with medical centers; $25,000.

3. Set aside $100,000 to provide essential equipment necessary to research in certain selected centers which could be expected to function more efficiently with

such help. These latter would of necessity be in the poorer or less-populated areas, for the most part.

4. Set up disease-detection centers, model clinics, and treatment centers in areas which require them. This would require a minimum of $250,000, initially.

5. Follow up the initial successes obtained in inflammatory diseases with ACTH and cortisone. This would require at least $500,000 exclusive of hospital and laboratory costs, and is most essential to the war effort.

6. Initiate intensive investigation into the handling of the type of traumatic cases common to military and industrial life; as lacerations, burns, retinal detachments, plastic and prosthetic repairs, and sympathetic ophthalmia. At least 15 such projects with a minimum total cost of $450,000 are essential.

7. Support intensive investigation in the fields of diabetic eye diseases, cataracts, glaucoma, retrolental fibroplasia, and retinitis pigmentosa. A minimum of 15 such projects would cost a minimum of $500,000.

8. A minimum of $100,000 should be devoted to investigation in the basic sciences as related to ophthalmology; anatomy, histology, pathology, neuro-ophthalmology, physiology, biochemistry, etc.

From the above it can be deduced that a minimum of 2 million dollars should be devoted to initiating a successful attack on blindness, along a broad front. I have not included any sum for the work on electronics which would probably require an initial outlay of about $500,000, nor have I had time to point out the important direct and indirect interrelations between the fields of neurology and ophthalmology. I have made no provision for the financing of the numerous original (and at the moment anticipated) projects which are arising at all times; such as was the case when ACTH and cortisone suddenly came on the medical scene.

PREVENTION AND CURE FOR BLINDING EYE DISEASES

Senator CHAVEZ. Mr. Ulmer?

Mr. ULMER. My name is J. M. Ulmer. I am a lawyer of Cleveland, and secretary of the National Foundation for Eye Research, a big name for a little group of earnest people who are trying to do something in this cause. I have the honor to be a member of the national advisory council of the National Institute of Neurological Diseases and Blindness.

I am surrounded by men of medicine, doctors, neurologists, but I come to this cause because of my own experience. For 22 months I could not read a line. Then, through a successful operation by an able surgeon, I regained my sight, and I can see and read. I made up my mind that I was going to, as a layman, do whatever I could to find the answer if there was one to blindness. And the more I searched, the angrier I got. I shall try to brief the paper that I am going to give.

Senator CHAVEZ. About your anger?

Mr. ULMER. No; I am going to continue to be angry until something is done about it. And I shall go everywhere any time I can, all of us working in our group without expense.

Senator CHAVEZ. Well, tell us how we can help you.

Mr. ULMER. I think when I get through—and I am going to try to brief this paper—I will want to leave the complete paper for the record.

Senator CHAVEZ. We will be happy to have it.

Mr. ULMER. On August 15, 1950, Public Law 692, Eighty-first Congress, chapter 714, second session (S. 2591), created a new Institute on Neurological Diseases and Blindness. The purpose of the act is to improve the health of the people through the conduct of researches, investigations, et cetera, relating to the cause, prevention, methods of diagnosis, and treatment of blindness and neurological

diseases. The Surgeon General was directed to establish, in the Public Health Service, an institute for research to conduct and support such scientific investigations.

I shall, in the main, talk about the new institute on blindness—others more competent have or will discuss the institute in its relationship to neurological diseases.

Dr. Dan Gordon and I talk for the blind of America in relation to our effort in this field.

RESEARCH NEEDED

We freely give our full support to the new institute. The funds allocated to the new institute will be used as determined by the Surgeon General and his staff with the advice of the advisory council of the institute as provided under the law. By the enactment of Public Law 692, for the first time in the history of the blinding eye diseases, recognition was given to the fact that blindness can be cured and prevented through research. This committee is asked to consider what funds the newly created institute requires so that it may function properly. Why was it important that such an institute be created? Why is it important that funds be appropriated by the Congress for this new public health service? These questions I shall very briefly discuss.

HELEN KELLER

There are not less than 800,000 people severely visually handicapped. Not less than 260,000 are totally blind; 22,000 people lose their sight each year; 6½ million children require eye care. Three-quarters of a million people have glaucoma, a dread disease of the eye, without knowing it, and may go blind at any time.

Helen Keller said:

> To understand the needs of the blind, you must imagine what it would be like not to see * * * and you can imagine it more vividly if you will remember that before your life's end, you yourself may go the dark way. * * * Blindness is to live long, long days; and life is made up of days. It is to live imprisoned; baffled. All God's world shut out. It is to live helpless; staring into the dark, with nothing but the dark staring back; while one's spirit tugs at its fetters, and one's hand aches for the tools it used to wield. * * *

PRIVATE FUNDS

Last year not less than $125 million was spent by governmental and private agencies to help support the blind after they were blind. Yet last year only about $400,000 from all sources was spent for actual fundamental research in the blinding-eye-disease field to find the causes, the cure, and the prevention of blindness.

Senator CHAVEZ. Pardon me, Mr. Ulmer. The statement and the figures that you have outlined now have to do with private expenditures?

Mr. ULMER. Public and private, in support of the blind, as near as we can estimate, $125 million after they are blind; $400,000 devoted to finding out why.

Senator CHAVEZ. I see.

GOVERNMENT GRANTS

Mr. ULMER. And of that, the Government contributed, as far as I can find $71,000.

If there are fewer blind, it follows that less public money will be required to support the blind and more money otherwise so spent will be available for research to cure and prevent blindness. Not less than 50 million people wear glasses and glasses are crutches for the eyes. If 50 million people in this country were on crutches, quite a furor would be created and questions would be asked. We have just taken our eyes for granted. We have done next to nothing by way of research in the blinding-eye-disease field.

A new class of blindness has been discovered in the past few years affecting babies. One out of every five prematurely born babies of a certain weight are born blind. There are now over 3,000 of these children, 6 years old and under, in the United States. Since cause, cure, and prevention still elude what little research has been devoted to this new problem of blindness, the end is not in sight—52 Americans go blind every day; 1 out of 550 Americans is blind. Someone in this country goes blind every 28 minutes.

DR. BEHRENS, NOTED OPHTHALMOLOGIST

Dr. BEHRENS, a noted ophthalmologist, said:

> So neglected has been the field of basic research in the blinding-eye-disease field that it is inconceivable that such a condition should exist in this country, which is research-minded; 70 percent of blindness is preventable.

How shocking, but true, is this situation.

Do you value your eyes? "What a foolish question," you will say. Yet I ask everyone of you to answer that question when you consider the facts that I lay before you. Statistics are woefully inadequate as to the number of blind people. Blindness also means economic blindness—loss of vision sufficient to cause inability to do effectively any kind of work for which sight is essential. There is total blindness, vocational blindness, and educational blindness.

CAUSES OF BLINDNESS UNKNOWN

The causes of blindness are unknown to science. Shocking as it may seem, practically nothing in the way of fundamental research has been done to find the causes and the cure of blindness. We ask, Why glaucoma? Why cataracts? Why retrolental fibroplasia? Why retinitis pigmentosa—also known as night blindness? I could go on listing eye diseases and you will find the answer to be that we do not know the causes—they are "unknown to science."

If you are asked which of your senses is the most important to you, you would unreservedly say "sight." Everybody in this room sees everything. Just think of that. Suppose you couldn't see. I know the answer to that. Before 22 months ago I could not read a line. If I take off my glasses now, I can't see.

I ask, what can be done to push back the curtain of darkness to find the path of sight and I answer by saying, "the furtherance of fundamental research in the blinding eye diseases."

The conquest of the causes of blindness, like the causes of hunger, is of prime concern to everyone of us who values his sight, and who does not?

CATARACT AND GLAUCOMA

The Federal Security Agency has said of the recorded cases in the most frequent eye diseases, cataract and glaucoma, that they consist of eye conditions for which the causes have not yet been found—they are unknown to science. Consideration must be given to the concept of economic blindness of 800,000 persons who are less than totally blind. Surely consideration should be given to the three-quarters of a million persons with unrecognized glaucoma, a dread disease leading many to blindness if not detected. The Federal Security Agency says we do not have a program or budget allocation for research in the eye diseases or blindness.

PAST EXPENDITURES FOR BASIC RESEARCH

When these and other startlingly similar facts were given to the Congress at the time the legislation was being considered under which the new Blindness Institute was created, one of the Congressmen said:

> I might say, Mr. Ulmer, that it certainly has been a shocking and startling revelation to me to learn that only $400,000 all told has been spent in basic research and that only between $70,000 and $80,000 of Federal moneys have been contributed to the gross amount of $150,000. I am sure that there are not more than a half dozen Members of Congress who are aware of this situation. If they do become aware of it, I am sure they will feel like doing something about it.

AMOUNT OF BUDGET REQUEST

And the Congress did something. It enacted Public Law 692. It created a new Public Health Institute for Blindness and now we come to you and say, "Will you give the Institute the money it needs to carry out the work in this sorely neglected field?" How much money is required to have this new Institute, which combines neurological diseases and blindness, created under Public Law 692, function? A citizens group, having studied the subject of blindness and neurological diseases, conservatively estimates the need of the new Institute to be $3,750,000 during the next year. Those are the two subjects, neurological diseases and blindness.

These funds which may be allocated will be wisely spent by the new institute in the cause of research in blindness and neurological diseases, and will be devoted not to the building of buildings, but exclusively to actual fundamental research by the most competent people in these fields. If you supply these funds, you will permit the new Institute to proceed, through research, to find the answer to blindness and the way to research in the neurological diseases field. Others, more familiar with that subject, will discuss the needs of neurological diseases.

We are all agreed that the new Institute fills a great need in the field of public health. The ink on the law so long delayed in its enactment was hardly dry when more than $8,000,000 of bona fide requests came to the new Institute from institutions, laboratories, universities, individuals everywhere, that funds be allocated to undertake various researches. The law became effective August 15 last.

These requests, of course, must be individually and thoroughly investigated. Then, depending upon the money allocated by the Congress to the new Institute, action may be taken on that portion of the qualified applications which are approved.

Here I digress for a moment. We have in the Public Health Service leaders of the highest type—honest, earnest, able men under the direction of a capable Surgeon General and a very efficient staff. They have done, as you know, outstanding work in the Public Health Service and no one who searches out the facts can for a moment question that the funds which you will allocate to the new Institute on Neurological Diseases and Blindness will be wisely spent and applied to those researches which will bring us the answer to the questions here discussed. And I say that advisedly, from my experience as a lawyer, having seen legislative bodies appropriate dollars. You want to be certain that they are appropriated to a group that knows what it is doing. And never in my entire experience at the bar of 40 years have I found a more efficient group of people than the Public Health Service under the Surgeon General and his efficient staff. And I say that with praise to them and with happiness that that situation does exist.

Senator CHAVEZ. I think they deserve it, sir.

DR. DAVID COGAN

Mr. ULMER. One of the great eye research men of the country, Dr. David Cogan of Harvard's world noted Howe Eye Laboratory, has said:

> I cannot begin to cite the tremendous possibilities of an expanded laboratory devoted to research on the eye. Few disasters can compare with the tragedy of blindness, and yet so little money has been available for its study in a research laboratory; so little fundamental information has been discovered even for the normal eye; and such limited facilities have been available where investigators can and will devote their full attention to research on the eye.

The need for research is desperate. The hope in the future lies in the search for fundamental knowledge and the application of such knowledge and this is what the funds that we asked you to supply will do.

DR. V. EVERETT KINSEY

Dr. V. Everett Kinsey, formerly of Howe Eye Laboratory of Harvard, now with the Kresge Eye Institute at Detroit, an outstanding eye research scientist, states:

> It is agreed that fundamental research in the blinding eye disease field has been sadly neglected. Strangely enough, important as this field is, the sponsorship of fundamental research to find the causes of blindness has not been properly undertaken. In most of the blinding eye diseases, the causes are unknown to science.

By providing the money, millions of dollars of economic waste may be saved, to say nothing of the elimination of the wreckage of human lives resulting from blindness, 50 to 75 percent of which blindness competent authorities advise will be eliminated through research to find its causes.

The blind will always be with us, but their numbers should and can be greatly reduced. The eye is the most complicated and least understood organ of the human body.

COMPARISON OF RESEARCH FUNDS IN OTHER FIELDS

The subject of fundamental eye research, except in a few places and in a very minor way, has been lost in the study of diseases. Why so little attention has been paid to so vital a function of life as one's eyes passes understanding. Eye research has not been made in this great country of ours because moneys have not been appropriated to that end.

Comparisons are odious, it is said. I do not criticize because I do not know the answer, but it does appear to me, and I hope it appears to you, that if in 1949 the Congress appropriated $73,000,000 for research in control and cure of plant and animal diseases (which includes $45,000,000 for the eradication of hoof-and-mouth diseases in animals), then $3,750,000 for the new Institute on Neurological Diseases and Blindness is a very modest request when compared with the compelling need for research in these fields. I have every confidence that you will meet this need by making such an appropriation, which we, who have studied the matter, believe is reasonable and required in order that the new institute may proceed with its work.

Because I do not know the facts, I do not criticize the amounts to be allocated in support of research, et cetera, in other diseases under H. R. 3709. Yet I must bring to your attention the desperate need of the new Institute if it is to properly begin to meet the problem of blindness and neurological diseases. The amount applied for cannot possibly meet the demands which have been made by well qualified researchers upon the new Institute in the short time since it came into being on the 5th of August last.

May I suggest that with $3,750,000, a good beginning can be made by the Public Health Services in the activities that it now enters into in the new Neurological Diseases and Blindness Institute.

And to conclude: Only one who has never had sight and hopes some day to see, or one who has seen the light and is forced to give up the use of his eyes can appreciate this most precious gift that most of us take for granted. Unless the moneys are supplied to the new Institute, thousands of persons who are now blind or who may be stricken blind during the ensuing years will find that "unknown to science" is the answer concerning the causes, the prevention and the cure of neurological diseases and blindness.

These facts challenge your earnest consideration.

I thank you for the privilege of talking to you, and I hope that what we have said today will cause the Senate Appropriations Committee to supply the funds, meager as they have been asked, to meet these situations, with which seemingly few people are acquainted.

Senator CHAVEZ. Being a lawyer myself, I think you made a grand statement. It was very fine, sir.

I want to thank all of you gentlemen.

STATEMENT OF HOYT S. HADDOCK, LABOR-MANAGEMENT MARITIME COMMITTEE

A statement has been submitted by Mr. Hoyt S. Haddock, of the Labor-Management Maritime Committee, which we will be glad to include in the record at this point.

(The statement follows:)

STATEMENT OF HOYT S. HADDOCK, CODIRECTOR LABOR-MANAGEMENT MARITIME COMMITTEE

MAY 11, 1951.

On January 12, 1951, we addressed a communication to Dr. Leonard A. Scheele, Surgeon General, United States Public Health Service, the text of which is as follows:

"DEAR DR. SCHEELE: We are becoming alarmed over the contraction of the United States marine hospital facilities assigned to the care of merchant seamen. The closing of these facilities on the inland rivers, lakes, and at the ports of New York and Baltimore have created a situation which has resulted in excessive delays in the treatment of merchant seamen. If there are additional curtailments of facilities planned, this deterioration of service will, no doubt, be intensified.

"We recognize that facilities are being closed due to a lack of funds with which to operate. This, of course, is a budgetary matter which is controlled by the Congress of the United States on the basis of suggestions from the Bureau of the Budget. We are anxious to be of whatever assistance possible either with the Bureau of the Budget or the Congress in this regard. While we recognize that your organization must be guided by the decisions of the Bureau of the Budget, and that you cannot discuss their decisions with us, we have found that we are able to discuss matters of interest to us with the Bureau of the Budget and the Congress without such aid as should normally be expected from the agencies concerned.

"You may recall that at a meeting in your offices approximately a year ago a group of citizens from New York came down to protest the utilization of Manhattan Beach facilities for tubercular patients. After that meeting I mentioned to you that we were considerably dissatisfied with what appeared to be the prospective closing of hospital facilities because of budgetary questions. We requested an opportunity to discuss your plans and program with you before they were put into effect. You expressed the desire to discuss the plans with us so that you might have the benefit of any constructive suggestions or help which we may be able to offer you. We have not discussed any phase of the program for marine hospitals with you or your organization, and we are not familiar with future plans therefor. We believe that our attitude toward the marine hospital service can best be exemplified by a statement of policy by maritime unions dated January 8, 1951, which was presented to Vice Adm. Edward L. Cochrane, Maritime Administrator, by all the seagoing trade-unions in the maritime industry. We enclose herewith a complete copy of that program and call your particular attention to that section which deals with the marine hospitals and pursers-pharmacist mates.

"We again offer to cooperate with you in what we believe is a mutual desire to improve marine hospital facilities available to merchant seamen. May we emphasize that we cannot promise to be of any real assistance to you. However, it is quite possible that we may be able to help in some small manner to achieve what we believe to be an extremely important program for the benefit of our Nation.

"Looking forward to the opportunity of working with you on the health problems of merchant seamen, we remain

"Sincerely yours,

"HOYT S. HADDOCK, *Codirector.*"

The statement of policy by maritime unions issued January 8, 1951, referred to above has the following to say concerning marine hospitals. The pertinent section of the enclosure (statement of policy by maritime unions) follows:

"We look with concern on moves to curtail marine hospital facilities. Our contention is that present facilities should be retained and expanded.

"During World War II, out-patient and recuperation facilities were provided by private organizations. These facilities did not meet the need. Seamen whose nerves were shattered by enemy attack, whose mental and physical health reached the breaking point from exertion and exposure, require special care. The present curtailment of these facilities is dangerous. We need a two-way expansion of marine hospitals now to—

"(1) Meet the normal health and hospital needs of merchant seamen;

"(2) Ready the Service for cases which grow out of the war situation."

In furtherance of this question we addressed a communication to Senator James Murray, chairman of the Senate Labor and Public Welfare Committee, on February 2, 1951. The Senate Labor and Public Welfare Committee has the legislative responsibility in the Senate for the Public Health Service. Our letter read as follows:

"DEAR SENATOR MURRAY: For several years it has been apparent to those of us who have a special interest in merchant seamen, that the hospitals operated by the Public Health Service have not in all respects kept up with the parade of medical progress. As you know, merchant seamen were the original patients for whose care the Public Health Service was founded in 1798 and they undoubtedly still constitute the largest single-patient group in the marine hospitals.

"We have approached the Public Health Service from time to time as a result of comments and complaints registered by American merchant seamen concerning one area or another where there seem to be inadequacies in their medical-care program. Upon investigation in each instance we have found that they were aware of the deficiencies but were hampered by lack of funds. As we have contacted the Public Health Service from time to time regarding the lack of sufficient nurses, inadequacies in food preparation, procedures used in admitting or rejecting our patients applying for admission, requests for clinical abstracts, etc., we have observed that considerable progress has been made over the course of the past 10 years in the kind of medical care furnished. However, it is obvious that rising costs in areas affecting both private and public enterprise must of necessity present to the Public Health Service serious problems of maintaining their present standard of care, to say nothing of meeting the requirements that may be acceptable according to present standards in our Nation.

"The seamen, who have the major stake in the quality and adequacy of medical service, feel that the number of nurses in these several hospitals are provided on too skimpy a basis and further that the benefits of rehabilitation, as we have all seen following the outcome of medical care necessary in World War II, has not been to any extent, according to my knowledge, incorporated in the marine-hospital operation. The present period of preparation for national defense must reemphasize the need for such an activity

"Without a knowledge of the organization structure of these hospitals, I would presume that good management is as important to these institutions as is necessary in private enterprise. If in fact, medical services are not supported by sufficient funds, I would strongly recommend that inquiry be made into the area of management, in order that we may ascertain the presence or absence of funds to support appropriate requirements as well as the type program they may have.

"It is my understanding that the President's budget for the fiscal year 1952 shows a decrease rather than an increase in the staffing of these hospitals. In view of rising costs of operation, as noted above, I fail to see how present standards of care can be maintained. Another factor which is bound to enter into the operation is the continuing expansion of the merchant marine.

"I should like to request that your committee, which carries responsibility for basic health legislation, ascertain whether the budget through which funds are provided for the operation of the marine hospitals makes provision for an adequate number of personnel to provide professional and administrative services in these hospitals. Unless this answer is in the affirmative we would respectfully request that your committee advise the Appropriations Subcommittee of the deficiencies in these activities prior to the appropriation hearings of the Public Health Service.

"Sincerely yours,

"HOYT S. HADDOCK, *Codirector.*"

On February 9, 1951, we received the following reply from Senator Murray:

"DEAR MR. HADDOCK: I am glad you took the trouble to call to my attention the situation described in your letter of February 2. You are quite right in assuming that I would be interested. I am immediately taking up the questions you raised with the United States Public Health Service, and I shall be glad to keep you advised as to the results. I know, and I imagine that you will agree, that Surgeon General Scheele is one of the most competent administrators the Public Health Service has ever had. I happen to know personally, too, that there is no man in Government more interested in seeing to it that the institutions for which he is responsible are so managed as to provide the very highest standards of medical care. I am positive that Dr. Scheele will be glad to have any shortcomings of which he is unaware, particularly with respect to marine hospitals, brought to his attention. My own feeling is that, if any such shortcomings exist, it is probably because of lack of funds, as you intimated in the closing paragraphs of your letter. In any case you may rest assured that I share your interest either in finding that there are no deficiencies or in seeing to it that those which may exist are corrected.

"Sincerely yours.

"JAMES E. MURRAY, *Member of Congress.*"

On February 14, 1951, the Surgeon General replied to our letter of January 12, as follows:

"DEAR MR. HADDOCK: I appreciate your letter of January 12, 1951, concerning problems of mutual interest in the medical care of merchant seamen. I am especially grateful for your understanding of the difficulties which confront us.

"As you know, the closing of the Ellis Island Marine Hospital at this time is necessitated by the sharp limitation of funds available in our 'Hospitals and medical care' appropriation. It is important, however, to recognize that we have long felt that the antiquated physical plant at Ellis Island was not suitable to provide comprehensive care of high quality. It was also our opinion that a major capital expenditure on the physical plant would only yield a renovated relic, from the point of view of a modern hospital. Moreover, the isolation of Ellis Island, which is accessible only by ferry, has imposed a hardship on beneficiaries who were ill and in need of care. A careful survey of our facilities in the New York metropolitan area reveals that all our beneficiaries who require hospital care can be treated in the Staten Island Hospital and Manhattan Beach Hospital. We sincerely believe that our patients will be able to obtain better care because (1) these two latter institutions are more modern, (2) the professional staffs provide a wider range of medical specialties and auxiliary services.

"The situation is much the same in the case of the downtown out-patient office in Baltimore. The requirements for modern medical care cannot really be met in a small office which cannot afford complete laboratory, X-ray, and other adjunct services. The original plan to close the downtown out-patient office in Baltimore has been modified to the extent that it will be continued on a limited basis to provide physical examinations and certifications, at least until June 30, 1951. Under these circumstances we shall be able to retain the space. Its use beyond that time will depend on our appropriation for fiscal year 1952, the cost of living, and other factors.

"It is evident in your letter that you are fully acquainted with Federal budgetary procedures and are aware of the restrictions which do not permit us to discuss the details of budget preparation. The end results are, of course, available to interested persons in the detailed presentation of the President's budget. As you observe in your letter, you are, of course, free to discuss these matters in which you have an interest, either as a private citizen or as a representative of the Labor-Management Maritime Committee, with the Bureau of the Budget and the Congress.

"With reference to the statement of policy by maritime unions, January 8, 1951, it should be noted that the President's budget for the fiscal year 1952 provides for an increase in funds for medical services to the Coast Guard. In general, it does not allow funds in other areas supported by the appropriation for 'Hospitals and medical care' for a level of operations as high as that currently budgeted. In accordance with your request, we shall be very glad to meet with you, at any time convenient for you, to explore the general program plans of the Service in the areas in which you have a natural and deep interest. I shall be glad to meet with you personally. In addition, I am eager to have you meet and become acquainted with Dr. Jack Masur, who was recently appointed Chief of our Bureau of Medical Services. Dr. Halsey Hunt, Chief, Division of Hospitals, and other members of our staff will also be glad to cooperate with you in every way possible.

"I look forward to the pleasure of seeing you again soon.

"Sincerely yours,

LEONARD A. SCHEELE, *Surgeon General.*"

As a result of Senator Murray's communication to the Surgeon General, on February 23, 1951, Dr. Scheele replied in part as follows:

"The critical comments which you have had on our difficulties in maintaining adequate medical care for merchant seamen and other beneficiaries have a basis in fact. I have been increasingly concerned with our inability to cope with the rising costs of medical care, in the face of limited budgetary allowances. During the past 6 or 7 years our staff has made notable advances in revamping our hospital programs to conform with the most progressive practices of the leading hospitals in the country, but much remains to be done and progress is considerably hampered by lack of adequate funds.

"Our most critical problem is the necessity for providing nursing service to each of many individual ward areas in each of 23 hospitals, 24 hours a day, 7 days a week. We have utilized auxiliary workers wherever possible to supplement the activities of our professional nurses, but I regret to say that the total number of

nurses now employed in the hospitals of the Public Health Service is grossly inadequate to meet the needs of the sick entrusted to our care.

"I believe we have made gratifying strides in improving the management of our hospitals and the professional care given to our patients. A long-range program of extra-mural training in hospital administration, in cooperation with several universities, has enabled us to improve the caliber of men holding important executive positions. The part-time use of local medical specialists as consultants and the development of internship and residency training programs, approved by the Council on Medical Education and hospitals of the American Medical Association, have made significant contributions toward raising the standards of diagnosis and treatment in marine hospitals. We strive to better the quality and efficiency of the medical-care programs in our hospitals and outpatient departments, but we find ourselves handicapped by the very lean budgets under which we operate. In fact, we are struggling to maintain our present position in these difficult days.

"I am stressing the personnel shortages because, in the operation of our hospitals, costs of personal services account for 75 percent of our total budget. Thus improvement of the service rendered depends to a great degree on enlarging our staff. In this connection, we are hampered by the application of an artificial and unrealistic employee-patient ratio. The average ratio in short-term, nonprofit general hospitals of 100–249 beds in the United States is 1.76 employees to 1 patient. In the larger general-care hospitals (250 beds and over), with which most of our general-care institutions are comparable, the national ratio is 2.05. Our marine hospitals operated in fiscal year 1950 with 1.06 employees per patient. The discrepancy becomes even more glaring when we consider that our medical staffs are full time and that we are required to operate on a 40-hour week for all employees, which is not the case in the vast majority of voluntary hospitals. Unfortunately, the problems of establishing ratios are not generally as well understood as they should be. In any review of the operating expenses of hospitals, the patient-day costs do not react in a direct-line relationship with occupancy rates because of two principal factors. First, there are certain relatively static staffing needs in maintenance departments, food preparation services, admission and discharge services, and others. Second, there are certain constantly alerted services which have to be maintained as life and death stand-by staff and facilities at all hours of the day and night. One interesting point in the evaluation of this problem is the fact that in a modern hospital only about one-fifth of the entire floor area represents space occupied by patients' rooms. Four-fifths of the space is required for supporting services.

"One final word concerns the establishment of a rehabilitation program. During the past 5 years we have greatly improved the physical-therapy departments of our hospitals, but have been unable to establish any real rehabilitation program, again because of lack of funds. With manpower shortages staring us in the face, the need for rehabilitation and the fastest possible return to productive work of Coast Guards men, seamen, and Government employees is great, and we had hoped to have such a program in our budget for fiscal year 1952.

"Our hospital staffs will do their utmost to give our patients the benefits of modern practices in medicine and allied specialties, but they labor under shortages of funds which will make it exceedingly difficult, if indeed possible, to maintain the highest standards of diagnosis and treatment.

"I appreciate your unflagging interest and support of the activities in the Public Health Service, and I want to assure you we will continue to do everything within our power to see that our hospitals and clinics are geared to the point where they will furnish adequate and requisite services for the men in whose interest they are established.

"With best wishes.

"Sincerely yours,

LEONARD A. SCHEELE,
Surgeon General."

This series of letters make it clear that merchant seamen are not receiving the care which was contemplated by the legislative committees. Further, that this shortcoming is dictated by the lack of funds on the part of the United States Public Health Service.

We recognize that certain legislators are bent on an economy drive. We do not want to get involved in that question. However, we are anxious that this committee take appropriate steps to see that public health has sufficient funds to

render the necessary care to patients that their condition might warrant, and advance hospital and medical care can provide.

Senator CHAVEZ. I also have a statement submitted by Mrs. Lorin Stein in behalf of the National Congress of Parents and Teachers.

(The statement is as follows:)

STATEMENT OF MRS. LORIN S. STEIN, A MEMBER OF THE WASHINGTON, D. C.' LEGISLATIVE COMMITTEE OF THE NATIONAL CONGRESS OF PARENTS AND TEACHERS

This statement is made in behalf of the National Congress of Parents and Teachers, a Nation-wide organization of nearly 7 million people interested in their own and other people's children, and better known as the P. T. A. For many years an important portion of its active legislative program has been the support of adequate appropriations for the United States Public Health Service, and the organization's criterion of "adequate appropriations" is, by definition, the "recommendations of the United States Bureau of the Budget."

The local Parent-Teacher Associations throughout the country have given active support and aid to many phases of the Public Health Service. Because they are primarily interested in the welfare of children, they have made it their business to know and appreciate the benefits to their communities which the United States Public Health Service gives. They have learned that many vital needs of their communities are met only by Public Health, and that any curtailment of the Federal funds made available to the various States and localities would entail serious loss to the health and well-being of the community. Therefore, on their behalf, the National Congress of Parents and Teachers strongly urges that this committee restore the cuts made by the House of Representatives.

The National Congress of Parents and Teachers does not believe that the country can afford economies in services essential to the health of its citizens in a time of emergency. This country's capacity to produce is the hope of peace for the world. Despite our tremendous technological advances, our productive capacity still depends primarily on the ability of our people to function as effectively as possible as producers. It is indeed a false economy which curtails the means of fortifying that productiveness.

The National Congress of Parents and Teachers supports the various programs of medical research in the Public Health Service.

In the dental health programs, the topical fluoride treatment, as initiated by a Public Health demonstration program, has within a very short period gained such widespread recognition and support among both professional and lay groups that it runs a risk of losing new ground by the very brilliance of its services. There are still communities who have not learned its benefits, and although the program has been preeminently successful and popular, it should not be eliminated before all sections of the country have been able to participate. This demonstration program of the Public Health Service captured the imagination of millions and has been a brilliant example of how the Public Health Service can be the stimulator of a service which can, after its initiative phase, be taken over by local public or private facilities.

A new program for the fluoridation of drinking water to prevent tooth decay has been developed by the Public Health Service. The National Congress of Parents and Teachers urges that the cut made by the House on the dental health appropriation be restored so that these funds may be used for the furtherance of this program. It is a method of protection which sounds almost magical—except that its clinical soundness is attested to by such down-to-earth authorities as the American Dental Association, the State and Territorial Dental Health Directors, American Association of Public Health Dentists, State and Territorial Health Officers, American Public Health Association, and American Water Works Association.

Research has shown that the addition of fluorides to the water supply of a community, at the cost of from 4 to 14 cents per person per year, will cut the incidence of dental decay by 65 percent. The addition of a fluoride to the water supply is entirely harmless, very cheap, very simple technically. It adds no taste or odor and might be entirely unnoticeable.

The Public Health Service proposes to use the funds requested for this program entirely in providing consultation and technical counsel to local communities who wish to start a fluoridation project and also in training local personnel to assist in the program.

The National Congress of Parents and Teachers endorses the program most warmly.

Mr. Chairman, I would like to complete this statement by drawing to your attention what we have learned would be the probable effects of the House cut in this program:

1. The loss of 13 demonstration units.
2. It would deny 150 communities the topical fluoride demonstration.
3. It would deny 100,000 children the immediate benefits of topical fluoride applications.
4. It would nullify the potential for promoting the establishment of 150 additional community topical fluoride programs.
5. It would largely remove the most important incentive now available for the recruitment of dental hygienists into community public health work.
6. It would vitiate a very tangible justification for the establishment of new schools for the training of dental hygienists.
7. It would reduce the Federal operations to a regional operation basis rather than an individual State-Federal basis.
8. It would markedly reduce not only the incentive afforded by the demonstrations but the follow-up work which is so essential to effective promotion of community topical fluoride programs.

Senator CHAVEZ. I shall insert a letter from the Muscular Dystrophy Association, Inc.

(The letter follows:)

MUSCULAR DYSTROPHY ASSOCIATION, INC.,
New York, N. Y., May 10, 1951.

Hon. DENNIS CHAVEZ,
Senate Office Building, Washington, D. C.

MY DEAR SENATOR CHAVEZ: May I respectfully ask that the enclosed copies of the statements of Dr. Ade T. Milhorat and Mr. Paul Cohen be submitted to the Senate committee considering the appropriation for the Neurological and Blindness Institute. I trust that you will find it possible to comply with this request for which I take this opportunity to thank you.

Respectfully yours,

MICHAEL E. FREELUND,
Executive Director.

STATEMENT OF PAUL COHEN, PRESIDENT OF TECHNICAL TAPE CORP.

The Muscular Dystrophy Association, Inc., of which I am president, was formed in April 1950 by a group of victims of muscular dystrophy and by the parents of children who suffer with this disease. The experience of these people so closely resembles my own that the necessity for a joint activity on the part of the victims to stimulate research was very obvious. The simple truth was that the disease, for lack of research funds, was with one or two exceptions being completely neglected by the medical world. It was the belief of this group of victims that the only possibility for a cure or an effective treatment in the immediate future was the research program that was in progress at the New York Hospital-Cornell Medical Center, under the direction of Dr. Ade T. Milhorat. This program for several years had been operating at an accelerated pace under the sponsorship of a generous individual donor. During the period much progress was made. It was then with considerable alarm that victims and parents received the news that these private grants were to be no longer forthcoming. This was one of the prime motivations toward the forming of this research program. This was done by individual solicitations within the families of those stricken and by public solicitations with canisters and such methods. The difficulties in carrying on in this fashion are complicated by the fact that the disease is so crippling and so devastating in its effect on the victims that it interferes with the victim's family and the victims themselves being able to afford personal contributions or to assist in the solicitation of such funds.

The disease is one which affects for the most part young boys who contract this condition at some time when they are between the ages of 3 to 6 years old. With no abnormality of any kind other than a progressive nonrelenting degeneration of voluntary muscle tissue, they pass from stage to stage of increasing weakness and paralysis, losing function after function, until at some time around the age of puberty they are completely flaccid and immobile, succumbing to the first serious infection, usually a cold, during which, due to impairment of breathing muscles,

they are unable to clear their own bronchial tubes and consequently suffocate. There are a minority of cases which strike in adulthood and early maturity which follow the pattern of the children, but which proceed at a slower cycle so that death may not occur for 20 or 30 years. During this period the loss of functions proceeds steadily, but at a slower pace, so that during the early stages gainful employment and almost normal life is possible. It is to this group of patients that I luckily belong. It has enabled me to play some part in the formation of this association.

As the story of our association reached the ears of patients throughout the country, by the thousands they wrote to us, phoned and visited us. With our advice, associations affiliated with us have been formed by patients in many cities in 22 different States; others are forming.

As a private individual who has talked with many members of this association, I know I reflect the unanimous desire of all persons interested in this problem in urging adoption of the Citizens Budget Committee proposal for $3,750,000 as the amount to be appropriated for the Neurological and Blindness Institute of the National Institute of Health, of which muscular dystrophy is a part.

STATEMENT BY A. T. MILHORAT, M. D., ASSOCIATE PROFESSOR OF MEDICINE, CORNELL UNIVERSITY MEDICAL COLLEGE; ASSOCIATE ATTENDING PHYSICIAN, NEW YORK HOSPITAL; RESEARCH ASSOCIATE, RUSSELL SAGE INSTITUTE OF PATHOLOGY; MEMBER, NEW YORK STATE BOARD OF MEDICAL EXAMINERS

Progressive muscular dystrophy is an important and serious crippling disease. While the condition may begin at any age, the onset in most patients is during infancy or childhood. The earliest symptoms may be comparatively mild. The child may display nothing more than slight awkwardness in walking, slowness in running, moderate difficulty in arising from a supine position, or a tendency to fall more often than normal children of the same age. These symptoms often are disregarded for periods of several months. However, the condition, as the name implies, always is progressive. The disability, which, when first noticed, may have been considered to be due to some unimportant condition, steadily increases. The muscles first involved are those nearest the trunk. Gradually and steadily other muscle groups are affected, until over a course of years all of the muscles of the body are involved. The child is steadily and relentlessly reduced to a state of complete infirmity, and, in the advanced stages, may be incapable of any muscular movement whatever. If, during this period, portions of the muscle are examined microscopically from time to time, a gradual loss of muscle substance with replacement by fat will be observed; in the late stages of the disease, advanced degeneration of the voluntary muscles is seen.

In addition to this progressive loss of muscle substance, there is another feature of the disease that has a profound crippling effect. These are the contractures (shortening of the muscle-tendon units) which first cause the patient to walk on his toes, and later may result in profund deformity of the ankles, knees, and elbows. These contractures may be so advanced as to cause severe pain.

In another form of the disease in which the underlying pathologic changes must be considered to be identical with that appearing in young children, the first clinical symptoms may be manifested about puberty. In this form of muscular dystrophy, the increase in disability usually proceeds at a slower rate than in children, but, in both forms practically all of the voluntary muscles of the body ultimately are involved, resulting in complete infirmity. The rapidity with which the disease progresses bears some relationship to the age at which the first symptoms appear. Generally, the earlier the disease appears, the more rapid the development of disability is apt to be. For example, children in whom the first symptoms are noted at age 2, usually are bedridden by the time they reach the age of 10 or 12; most of these patients succumb to respiratory infection (secondary to and modified by paralysis of the muscles of respiration) before reaching puberty.

Progressive muscular dystrophy often is hereditary. In about one-third of the cases, the history of some other member of the family being similarly affected may be obtained. It is not unusual to observe families in which as many as six siblings are crippled by this disease. In the form that occurs in children, boys are affected about three times as frequently as are girls, whereas in the form having its onset at puberty, as many females develop the disease as males. In the childhood form, heredity is by recessive mechanism. As a result, the disease may develop in several brothers although no previous instance of musuclar dystrophy is known to have occurred in the family. The involvement of several siblings is one of the most distressing features of this serious disease.

There are no accurate data on the incidence of progressive muscular dystrophy, but such information as is available would suggest that about 100,000 persons in this country are affected. There is no known treatment. The physician can predict that eventually all patients will be rendered infirm, but he cannot stay or even delay the course of the disease. The etiology of muscular dystrophy is not known. However, important leads have been uncovered and if these are pursued, and if our present and rather extensive knowledge of fundamental chemistry of normal muscle can be applied to the problem of muscular dystrophy, progress in the search for a cure for this crippling disease may be rapid.

In my opinion, this important problem is worthy of the consideration of the Subcommittee on Appropriations. I support the proposal of the Citizens Budget Committee that an appropriation of $3,750,000 be made available to the Neurological and Blindness Institute, so that funds may be furnished for the investigation of the various neurological disorders, and that studies designed to find a cure for progressive muscular dystrophy may be actively pursued.

Respectfully submitted.

A. T. MILHORAT, M. D.

Senator CHAVEZ. I thank all of you gentlemen. The committee will recess until 10:30 a. m. tomorrow.

(Whereupon, at 4:30 p. m. Friday, May 11, 1951, the hearing was recessed until Saturday, May 12, 1951.)